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U.S. Patent Application  
for

**METHOD FOR FACILITATING PRICING, SALE AND  
DISTRIBUTION OF FUEL TO A CUSTOMER**

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Attorney Docket No.

068.0003

068.0003-1



## TITLE OF THE INVENTION

METHOD FOR FACILITATING PRICING, SALE AND  
DISTRIBUTION OF FUEL TO A CUSTOMER

### 5 COMPUTER SOFTWARE ADDENDUM

Attached hereto is a compact disc containing computer software and data including executable programs, scripts, and database management system tables that are used to implement the systems and methods provided by the present invention. More particularly, the attached compact disc contains  
10 software and data used to implement at least two distinct applications comprising the systems and methods provided by the present invention; such two distinct applications include a broad-based, general use energy management system (referred to as the Energy Management System "EMS"), and a limited user/function restricted application (referred to as the Producer  
15 Control Center "PCC") intended for use by fuel producers needing access to centrally stored and managed fuel deal data. Such material is protected by the Copyright Laws of the United States (17 U.S.C. § 101, *et seq.*) and may not be copied without the express, written authorization of the copyright holder (Highland Energy Corporation). Copyright © 2001, Highland Energy  
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### BACKGROUND OF THE INVENTION

#### Field of the Invention

The present invention relates to systems and methods used to facilitate  
25 pricing, sale, and distribution of fuel to a customer. More particularly, the present invention is directed to automated systems and methods that are used to price fuels such as natural gas, oil, gas, other petroleum based fuels, etc., to facilitate commodity sales of such fuels, and to distribute such fuels to customers, and to track and report sales and distribution related data.

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## **Description of the Related Art**

Fuel sales and distribution systems and techniques are well known. Everyday millions of fuel sale contracts are completed in the U.S. and abroad. Fuels produced by a range of producers are transported over many modes of transportation (e.g., gas pipelines, etc.) to ultimately arrive at an intended destination. The steps involved in pricing fuel, selling a reserve, storing reserves, and ultimately transporting purchased fuel involve many parties including producers, agents, brokers, other middlemen and, ultimately, end customers. All of these parties have their own unique ways of doing business, reporting sale and purchase data, and collecting and paying against agreed upon contracts.

Unfortunately, many of the steps and processes carried out to facilitate fuel sales and distribution are archaic, inefficient, and, often, paper-based. Such inefficient ways of doing business cause many parties to engage large teams of personnel to manage the intricate details often involved in fuel sale and distribution. Fuel deal pricing provides a good example of the inefficiencies involved in moving large volumes of natural gas and other fuels.

Typically, pricing fuel deals in the natural gas arena involves manual processes related to gathering fuel index rates, manually computing sales prices across a multitude of fuel sales deals, laboriously factoring in transportation and other tangential costs, and managing for fuel overages and short falls often associated with transportation anomalies, etc. These processes typically involve the efforts of large teams of personnel within organizations who are required to constantly monitor sales deals, set pricing limits for sales people, and track and record fuel deal progress.

While many systems have been developed to facilitate sale and distribution of fuel and other products, commodities, and services in general, no systems developed to date can effectively management the volume of transactions among a wide array of parties to efficiently and effectively get fuel from one place to another. Moreover, existing systems have heretofore not been able to facilitate pricing practices that factor in past fuel deal data across a

multitude of prior fuel deals to better drive profit margins in the commodities and brokerage fields.

Accordingly, there exists a serious need to provide systems and methods that enable centralized location and management of fuel deal data, provide for application of pre-determined pricing techniques based on such fuel deal data, facilitate broad-based reporting based on such centrally stored fuel deal data to drive better business practices for parties to fuel deals, and increase productivity and make more efficient fuel sale and distribution practices. The present invention squarely addresses such a need and provides a new and improved systems and methods for facilitating fuel sale and distribution.

### **SUMMARY OF THE INVENTION**

The present invention solves the problems mentioned above with regard to prior systems and methods used to facilitate sale and distribution of fuel to a customer. By squarely addressing the limitations of prior systems and methods, the present invention provides new and improved systems and methods that permit a wide array of users to broadly access a central data store to create and manage fuel deal data. Such new and improved systems and methods further permit the inclusion of pricing processes into existing business processes that are based on prior fuel deal data and which take into account prior prices charged across collections of prior fuel deal contracts.

Accordingly, the present invention provides new and improved systems and methods for facilitating sale and distribution of fuel to a fuel customer. Such systems and methods include and involve a server facility configured to store fuel deal data and to process such fuel deal data to automatically generate pricing data based on the fuel deal data and in accordance with a pre-determined pricing technique. The system and method also include and involve a client facility that is coupled to the server facility via an electronic data network and which is configured to permit a user to enter such fuel deal data and to cause the server facility to store and process the fuel deal data to generate the pricing data. As such, fuel may be sold and distributed to a fuel customer via a

fuel distribution system based on the fuel deal data and the automatically generated pricing data.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

5           The present invention is described in detail below with reference to the following drawing figures, of which:

FIG. 1 is a timing diagram that depicts process flows within a business process that facilitates sale and distribution of fuel to customers in accordance with a preferred embodiment of the present invention;

10           FIG. 2 is a system diagram in which client systems can access server system(s) to facilitate sale and distribution of fuel to customers in accordance with the business process illustrated in FIG. 1;

15           FIG. 3A is an entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

FIG. 3B is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

20           FIG. 3C is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

FIG. 3D is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

25           FIG. 3E is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

30           FIG. 3F is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

FIG. 3G is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

5 FIG. 3H is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

FIG. 3I is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

10 FIG. 3J is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

15 FIG. 3K is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

FIG. 3L is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

20 FIG. 3M is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

FIG. 3N is another entity relationship diagram that depicts data relationships among tables and corresponding table entries used to implement the systems that carry out the business process illustrated in FIG. 1;

25 FIG. 4A is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

30 FIG. 4B is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4D is another screen shot of a data processing application running  
5 within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4E is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

10 FIG. 4F is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4G is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

15 FIG. 4H is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4I is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4J is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

25 FIG. 4K is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4L is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4M is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4N is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4O is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4P is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 4Q is another screen shot of a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1;

FIG. 5A is a flow chart that illustrates the operations carried out to effect a pricing technique and, in particular, one that effectuates a weighted average sales price for fuel deals in accordance with a preferred embodiment of present invention; and

FIG. 5B is the conclusion of the flowchart started in FIG. 5A.

## **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

The present invention is now described in detail with regard to the drawing figures that were briefly described above.

The systems and methods described herein are illustrative of the exemplary system implemented by way of computer software within a networked data processing environment and which is contained within multiple files housed on the compact disc that is appended to this patent document. Accordingly, the discussion that follows refers to such an exemplary system and those skilled in the art are encouraged to review such appended software in the context of fuel



deal management for a complete understanding of the present invention. As noted at the beginning of this patent document, the material contained on the attached compact disc is protected by the Copyright Laws of the United States (17 U.S.C. § 101, *et seq.*) and may not be copied without the express, written  
5 authorization of the copyright holder (Highland Energy Corporation). Copyright © 2001, Highland Energy Corporation. All Rights Reserved.

Referring now to FIG. 1, depicted therein is a timing diagram corresponding to the business process carried out within an organization to  
10 facilitate sale and distribution of fuel to a customer and which may be set up to utilize the systems and methods provided by the present invention. In particular, FIG. 1, illustrates a monthly or periodic business process involving several phases of operation that are carried out by the systems and methods provided by the present invention including, but not limited to: an availability  
15 phase, a bidding phase, a nominating (e.g., gas pipeline nominations, etc.) and routing phase, a third party and sanctioned sales period, a pricing period, an invoicing period, and an accounting period. Together, these periods make up what is referred to herein as a MONTH OF FLOW PROCESS (MFP). The MFP is described next to further illustrate the business operations that are handled  
20 by the systems and methods provided by the present invention.

## **THE MONTH OF FLOW PROCESS (MFP)**

### **Availability Period**

During the availability period of the month of flow process, equity  
25 contracts for sale and distribution of fuel (those that need to roll from month to month) are established for the next month. These purchase deals define the anticipated volumes by well/meter for each producer. The status for the production month needs are set to 'Availability' at this point. Then, correspondence is transferred (via fax, email and phone conversations) to the  
30 various operators/producers in order to confirm the anticipated volumes to be produced.

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The anticipated production volume for an entire well/meter is then entered into the system. An entitlement and makeup percentage is used to indicate how much of this volume is actually available to be marketed (represents the owner interest in the production of the well/meter). New deals are setup on the system to represent the new month's purchases. The package description is utilized to assist with easy recognition of volumes, price, etc. (used for identification purposes only). There is a process built within the system to automate the propagation of new deals to the next month (first time into a new month will automatically generate entries for the new month with zero volume amounts). The actual volume stored on the system (at this point) is zero. Only the nominated volumes contain the expected volumes for the production month. These 'nominated' volumes are equal to the estimates provided by the producers and entered into the system during this part of the month of flow. The primary area of the system utilized is the 'Availability' functions (off the system's main menu.)

### **Bid Week Period**

During the bid week of the month of flow process, buyers are found for the volumes that were made available through the availability step described above. The status of the production month of the system needs is set to 'Sales' at this point. By setting the status to 'Sales' all of the price indices will be initially populated and 'seeded' with zero values. Each of the sales is confirmed by a dealmaker and is written up on a deal log sheet. These deal log sheets reflect the pipe/field, meter/well, company, contract, volume, and pricing instructions to support the sale. Prior to completing a deal, the dealmaker will work closely with the volume control group to ensure that appropriate volumes will be available at the well/meter of sale. The dealmakers then complete the deal log sheet entries for the sale and they are transferred to the volume control group for deal creation and entry into the system. Most of the volumes sold during this particular phase are for the equity purchase deals created during the availability period.

### **Nominating and Routing**

During the nominating and routing period of the month of flow process, the volumes to support the sales are routed from the producer's well/meters to the sales wells/meters (primarily to pooling points or field tanks). This process occurs throughout the entire month. When the volumes are routed to specific pool wells/meters, allowances are automatically made by the system for fuel, gathering and transport costs. These costs will net down the actual available volumes that can be applied to the sales deals. When volumes are routed to a pool/tank then these volumes reflect as 'Transport Out volumes'. The volumes then show up as "Transported In' (net fuel) on the receiving meter/well within the system. The primary area with the System utilized during this process is the "Route Volume" menu option within the Routing module (main menu selection of 'Routing' on the System.

### **Third Party Deals and Sanctioned Sales**

During the Third Party Deals and Sanctioned Sales of the month of flow process, the dealmakers complete the third party deals. These deals are typically setup where a specific purchase deal (non equity type) is made to support a specific sales deal. These types of deals will usually have a specific price agreement and volume associated with them. Sanctioned sales represent sales from equity volumes with specific terms (prices, volumes, etc.) to specific sales meters. A sales price for a specific volume is set in advance of the production month with these types of deals. All third party deals are excluded from Weighted Average Sales Price (WASP) calculations as discussed below with regard to FIGS. 5A and 5B (each third party purchase volume exists within its own WASP pool ('None')). All sanction sales deals are included within the WASP calculation but EACH combination sanction sales (purchase-to-sale) will utilize a 'Dedicated' WASP pool during the calculation. In this way, sanction sale costs etc. PLUS netback percentages can be applied. All equity deals combined with the 'Common' WASP pool where costs and prices are

aggregated by meter/well based on volume weightings. All deals actually go through the calculation in order determine margins. However, the calculation has been setup to ensure that third party, sanctioned sale and equity pools are calculated without interfering with each other.

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### **Pricing**

During the pricing period of the month of flow process, all monthly index based prices are entered immediately when published. These are usually entered just before the beginning of the production month. Daily prices are keyed or otherwise entered throughout the month as they are received. When deals are setup the 'Pricing' function within the System is used to actually calculate a price for the deal ('Price' tab on deal detail screen). Each evening, for example, the 'Price All Deals' function of the System is started. This particular function will re-price all deals for the entire month (Price + WASP calculations). For months in the 'Sales' phase, the nominations are re-priced and recalculated. For months in the 'invoiced' phase, the pipe/field actuals are re-priced and recalculated. In addition, to this periodic process, an option exists within the System to price production months throughout a day, for example. Below, with reference to FIGS. 5A and 5B, the details related to fuel deal pricing are described. The ability of the present invention to incorporate a pricing technique such as one that is predetermined and implemented as a modular component of a larger software system, represents a significant point of novelty to which the present invention is directed.

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### **Invoicing**

During the invoicing period of the month of flow process, invoices for all of the sales for the previous month are produced. This represents the final step of the month within the system. All marketing individuals directly involved with the system for the month (controllers, dealmakers, etc.) are informed that the month is closing out and that invoices are now being produced. The status for the production month is changed to 'Invoiced'. A final nomination calculation is

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automatically done with the status updated. Accounting is then notified that the month has been completed. Invoicing reports are then run for the month and sent to the buyers by an accounting group, for example. Additional reports may be run (Sales By Pipe/Field, Purchase By Producer, Balancing Reports, Pipeline Statement Comparison Reports, etc.) by the accounting group for historical reference and reconciliation.

### **Accounting**

During the accounting period of the month of flow process, an accounting group creates a revenue and journal entry feed to track receivables within an automated accounting system. This feed is created directly out of the system. Pipe/Field statements begin appearing beginning as early as the 15<sup>th</sup> of the month. These statements represent volumes (by well/meter) for the previous month. Each accounting analyst is responsible for a specific set of pipe/fields. The volumes from these statements are entered as actuals into the system. A copy of the Pipe/Field statements are sent to the controllers for sign off. Accounting analysts then balance all of the purchase meter routing information for their respective pipe/fields. Accounting analysts then balance all of the sales meters for their respective pipe/fields. Accounting analysts then adjust any route volumes that cross pipe/fields to ensure interconnect balances are synchronized with pipe/field statements. Reconciliation and voucher reports can be run immediately after the production month is promoted to 'Accounting' phase (meaning accounting is finished with the month). These reports can then be sent to producers and/or entered into to accounting system.

### **AN EXEMPLARY SYSTEM**

Referring now to FIG. 2, depicted therein is a diagram of an exemplary system in which client systems can access server system(s) to facilitate sale and distribution of fuel to customers in accordance with the business process (MFP) illustrated in FIG. 1. In particular, system 100 includes both server(s) 102 and client systems 104. Additionally, a database management system and

corresponding data store 106 (hereinafter data store 106) is used to store fuel deal data and programs. Servers 102 are configured to be accessed via wide area network connections such as those facilitated via the Internet using open standards based protocols. Client systems 106 are configured with software  
5 contained on the appended compact disc to access servers 102 to engage in fuel deal operations such as those described with reference to the month of flow process (MFP) discussed above with regard to FIG. 1.

In FIG. 2, client systems 104 may be configured as desktop computing systems, wireless computing clients, etc. to access servers 102. Such access  
10 may be made possible via applications and technology such as dbOvernet TCP/IP Socket Connection Middleware. Furthermore, servers 102 execute common SEServer applications and routines utilizing dbOvernet middleware technology.

Within the processing space of servers 102, a database server system  
15 such as Microsoft's SQLServer V.7.03 (a DBMS engine) may be instantiated. Such a database management system may control data store 106 and may be configured in accordance with the present invention to maintain all fuel deal data in accordance with the present invention.

The following discussion further defines an exemplary arrangement for a  
20 client-server system implemented in accordance with the present invention:

### **SERVERS**

MS Windows NT 4.0 (SP6) may be chosen as a Network Operating System.

25 The DBMS may be Microsoft's SQL-Server (V7.0x) – Service Pack 3. All data generated and processed within the context of the present invention is stored in MS SQL-Server database tables. Such data is accessed via direct SQL statements (embedded in Windows applications, stored procedures, forms, and reports). There are several database views that have been setup to  
30 access aggregated information (for performance and consistency). In addition, all of the critical calculations and time consuming procedures such as pricing

calculations, routing and rollover processes, etc. are written as Transact-SQL stored procedures and are contained on the attached compact disc and are discussed in further detail below in the embedded description-tables found herein.

5           The SEServer may be a Middleware Server Application. The system database is accessed via middleware software that uses TCP/IP (SEServer/dbOvernet). All databases queried through the system come through this middleware component.

10           SECrystal (Crystal Reporting Engine Server Application) may be used for server side reporting functions, etc. All reports for the system utilizes a remote Crystal Reporting engine (SECrystal) server. These reports are run and saved on the server for electronic distribution. Crystal Report (V8.0) from Seagate Software is used for this function.

15           The SEFax (Fax Server Application) may be used for Fax distribution. This server application is responsible for sending out reports via a fax device. This software monitors a specific directory and when a fax file 'shows up' in the directory it will be faxed.

20           The MAPI Mail Client Software provides Email (like Microsoft Outlook or Outlook Express). The MAPI compliant email service needs to be running on the same machine as the report engine server (SECrystal). This provides the ability to email reports (Correspondence) automatically. Options should be set on this client to automatically check (send/receive) at periodic intervals.

25           The Adobe Acrobat Reader (Free PDF Viewer) is used to view reports, etc. The server machine that runs the SECrystal reporting server application needs to also have the PDF viewer installed. This is used in order to 'spool' to paper the print jobs.

### **WEB ACCESS – NETWORK CONNECTIVITY**

30           All functions within the System are available over the Internet (with appropriate security). An individual wishing to log in to the system over the Internet will need to have appropriate application security to log in, the current

application executable program (as contained on the attached compact disc) and an ISP account. System administrators will need to furnish access site addresses (e.g., IP addresses, domain names, etc.) to users to address the systems provided by the present invention.

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## CLIENT SYSTEMS

Client systems may utilize a Client Operating System such as MS-Windows 95/98/Me; MS-Windows NT 4.0/2000. TCP/IP network protocol is required. Access to the server TCP/IP address (either LOCAL address or  
10 REMOTE address is required.)

The system typically includes a single .EXE file(s) (plus approximately 8 disk compression and graphics DLL's). The system application require only a single executable with a few DLL's to reside on the client machine. No other client configuration software is required. Upgrades to the client software are  
15 automatically done when a user first connects (logs in) through the Internet (on application startup). A version number check will be made if necessary and a new installation program and script are automatically downloaded.

The Adobe Acrobat Reader (FREE PDF view) is used as a reporting system for files saved in the PDF 1.2 format. The default output for all reports  
20 on the system is the standard PDF format. This provides for email/electronic storage. In order to view reports this software (or other third party viewer with a file association to .pdf files) needs to exist on the client machine.

The MAPI Mail Client Software is used for electronic mail communications. A MAPI compliant email service needs to be running on the  
25 client machine to be able to highlight a report and email it using the client email address list. This software is not required to run the but is required to take advantage of the system's ability to attach reports automatically within an email client.

All client applications are written using DELPHI (V5+) including Delphi 3<sup>rd</sup>  
30 party tools and procedures. Such applications and stored procedures and



identified 3<sup>rd</sup> party tools are further described in the description-tables found below.

## **DATABASES, AND CORRESPONDING ENTITY RELATIONSHIPS**

5

The various database tables that make up the system have been divided into nine (9) database subject areas. A subject area within this context is simply a logical aggregation of tables that support a particular business or system function. All of the database tables physically reside in the same database, but are not required to so reside. Only the documentation (as described below) has been constructed to illustrate these subject areas. It is also important to note that there are linkages (not documented here) between the various subject areas.

10

These database subject areas and a description include:

15

Companies: All company related tables (including company name, contact name, addresses functions, etc.).

Contracts: All contract related tables (including contract provisions, notes, default standard reporting, etc.).

20

Deals: All deal related tables (includes other costs, deal classes, correspondence, etc.).

Volume Inventory: All volume inventory tables (includes production interests, daily monthly, calculated values, etc.).

25

Operational: All tables that were created to support the system (software application). These tables include fax queue tables, printer definition tables, system logs, system messages, reporting tables, etc.

Pipes/Fields: All pipe/field and meter/well related tables.

Pricing: All tables within the system that are related to pricing (indices, price descriptions, baskets, etc.).

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Routing: All tables within the system that define routes (leg definitions, daily leg rates, monthly leg rates, nom and actual volume routing instructions, etc.).

Security: All security related tables within the system (includes user, logins, passwords, business functions, etc.).

The above-described nine (9) logical database subject areas are next broken down into the actual tables that reside on the attached compact disc.

5 For purposes of brevity, such database subject areas are broken down in the following tables:

10

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## TABLE DESCRIPTIONS

Below is an inventory of the various database tables that are utilized by the Energy Management System. This particular inventory indicates the current number of rows (through January 2001), the database (MS SQL Server) and the database subject areas (logical grouping of tables).

Ref #	Table Name	Rows	Database	Subject Area	Description/Comments
<b>Companies Subject Area</b>					
1.0	Address	1,384	SQL Server	Companies	Contains record entries for each address for all companies and contacts within companies (multiple address types per company and/or contact).
2.0	Company	1,242	SQL Server	Companies	Contains a record entry for each company in the database. Information on this table includes company name, fax, phone and primary address reference identifier.
3.0	Contact_Group	908	SQL Server	Companies	Contains a record entry for each contact group relationship. This is the mechanism for grouping company contact individuals..
4.0	Contact_GroupNames	8	SQL Server	Companies	Contains a record entry for each contact group name.
5.0	ContactFunction	997	SQL Server	Companies	Contains a record entry showing the contact to function relationships for a given company.
6.0	Contacts	3,347	SQL Server	Companies	Contains a record entry for each individual contact in the database. Includes full name, phone, fax, email, title, etc.
<b>Contracts Subject Area</b>					
10.0	K	1,414	SQL Server	Contracts	This table contains a record entry for each contract within the system. Bank information (ABA), Evergreen indicators, termination date, fixed pricing, etc. type data attributes are stored on these records. Each contract on the system has an associated parent 'company' (on the Company table).
11.0	KNetBack	334	SQL Server	Contracts	This table contains the netback pricing tiers associated with a given contract. The parent table for this entity is the contract table (K). The netback pricing tiers are volume and date influenced.
12.0	Knotes	589	SQL Server	Contracts	This table contains an optional record entry for each contract on the system. If there are no notes associated with a contract then the records are not inserted on the database. This provides the users with a free form area for keeping notes about a contract.
13.0	Kproducts	1,049	SQL Server		This table contains a reference to the products that are available (oil, gas, liquids, etc.) for a given contract. A product has to be associated to a contract before a deal can be setup using that contract for that product.
14.0	KreportDefaults	48	SQL Server		This table contains the entire standard reporting defaults for a particular entity. These reports include invoices, remittance, vouchers, deal confirmations, etc.
15.0	KreportOverrides	0	SQL Server		If a particular contract has its own unique standard reports then a reference to these unique reports is stored in this table for the contract in question.

Ref #	Table Name	Rows	Database	Subject Area	Description/Comments
16.0	Kservices	1,068	SQL Server		This table contains a reference to the services that are available (marketing, end user, pass thru, etc.) for a given contract. A service has to be associated to a contract before a deal can be setup using that contract for that service.
<b>Deals</b> <b>Subject Area</b>					
20.0	RdealClass	6	SQL Server	Deals	This table is a reference table that indicates the types of deal class options that are available. The context of each class is 0=Purchases, 1=Sales and 2=Both. The description field indicates the possible answers (but the rDealClassA table contains the actual answers that can be applied).
21.0	RdealClassA	23	SQL Server	Deals	This table is a reference table that indicates the possible deal classification options for each of the classifications defined in the rDealClass table.
22.0	RdealClassRules	448	SQL Server	Deals	This table contains record entries for every combination of deal classification answers (rDealClassA table). Each of these classification options can have its own set of calculation rules/etc associated with it.
23.0	Engine_Master	39,149	SQL Server	Deals	This table contains a record entry for each price entry effective date (header record).
24.0	Engine_MasterPrice	79,244	SQL Server	Deals	This particular table contains the individual pricing components associated to a given deal on a given effective date (parent record is on the Engine_Master table). When the user of the Energy Management System enters a price, this is the table that gets updated.
25.0	Package	65,351	SQL Server	Deals	This table contains a record for each deal that has been setup on the system. Start Date, End Date, Deal Name, Contract, Company, etc. are specified on this table.
26.0	PackageCosts	381	SQL Server	Deals	This table contains entries for all 'other costs' associated with a given deal. Each of these 'other costs' will have unique STID's (deal or meter level) and have calculated 'Engine' records automatically generated (when a calculation runs).
27.0	PackageCorrespondence	3,447	SQL Server	Deals	This table contains entries for all of the electronic correspondence between the parties to the deal (deal confirmations, availability reports, remittance detail, vouchers, etc.).
28.0	PriceComponents	19	SQL Server	Deals	This table contain record entries for each component that can be set aside for pricing purposes (on a deal). Examples include 'DAILY INDEX', 'MONTHLY INDEX', 'GATHERING', etc. These tags will be associated to each component of the price to allow for future queries and reporting. In addition, these tags will provide an audit trail of all pricing related information.
29.0	PriceDesc	33,877	SQL Server	Deals	This table contains a record for each deal description (or comments) within the system. These price description records (only 1 per deal) provide the users with a place to put free form text to help describe the price of the deal.
<b>Volume Inventory</b> <b>Subject Area</b>					

Ref #	Table Name	Rows	Database	Subject Area	Description/Comments
30.0	Engine	280,970	SQL Server	Volume Inventory	This table contains record entries for each calculated transaction that the system attaches to volume inventory items. Each transaction has a unique STID (transaction id) that are defined in the Engine_TransactionList table. Indicators on this table determine the disposition of the transaction.
31.0	Engine_TransactionList	36	SQL Server	Volume Inventory	This table contains record entries that define all of the transactions that can be calculated and stored in the Engine table. The STID field is the unique transaction identifier.
32.0	GasInv	159,501	SQL Server	Volume Inventory	This is the primary table were all volumes (nominated and actual) are maintained. This table contains the header record entries that shows by month, company, transaction, pipe/field & meter/well the nominated volume and the estimated actual volumes. References to price types, contracts, etc. are stored on each record.
33.0	GasInvD	4,145,617	SQL Server	Volume Inventory	This table contains the detail (DAILY) nominated and estimated actual volumes for the GasInv table.
34.0	ProdInterest	7,999	SQL Server	Volume Inventory	This table contains a record that lists the production interests that are held for a given meter/well and contract (with date effectiveness).
35.0	ProdPkg	4,080	SQL Server	Volume Inventory	This table contains a record that indicates (by month) the contract and the deal ID of a deal that was generated automatically within the 'Availability' (equity purchase deal creation) area of the system.
36.0	ProdSum	39,296	SQL Server	Volume Inventory	This table contains records that indicate (by month and meter/well) the gross mmbtu's and the Btu factors.
37.0	ProdVol	44,187	SQL Server	Volume Inventory	This table contains record entries (by month and meter/well) which show the receipt and delivery mmbtu's per day.
<b>Operational Subject Area</b>					
40	ApplicationMessages	55,882	SQL Server	Operational	This table contains a 'rolling' 7 day listing of all application messages (such as those that are displayed to the console during a calculation).
41.0	ExceptionCategories	8	SQL Server	Operational	This table contains record entries to hold all of the exception 'reasons' that will be used whenever an exception even occurs. There can be multiple types of exception categories.
42.0	ExceptionList	2,171	SQL Server	Operational	This table contains entries for the actual exception events that get logged by the system. These represent an audit trail of non-normal or error type information. This table is linked to the ExceptionCategories table because each exception event (in this table) requires a reason category.
43.0	LogTable	4	SQL Server	Operational	This table is used for debugging purposes only and is not used in any screens or reports.
44.0	PrinterDef	6	SQL Server	Operational	This table contains a record for each available printer (including driver and port).

Ref #	Table Name	Rows	Base	Subject Area	Description/Comments
45.0	RgasMonth	1,440	SQL Server	Operational	This is a reference table that contains a record for each month from 1/1980 thru 12/2099. In addition, this table also contains the status and status update sequence number for the particular month. This status is used in order to enable/disable certain functions within the Energy Management System throughout the month.
46.0	RGasMonthStatus	1,873	SQL Server	Operational	This represents a historical audit table that will be updated every time the monthly status for a given production month is modified (via triggers on the RgasMonth table). This provides a mechanism of identifying who & when the changes were for the status, over time.
47.0	SEMessages	1,251	SQL Server	Operational	All system messages are stored in this table.
48.0	SEAudit		SQL Server	Operational	This table contains record entries for those events that are deemed 'auditable'. Some examples include 'Login' events, Actualization balancing events, standard report submission events, etc.
49.0	SEImages	2	SQL Server	Operational	This table contains record entries that contain graphic images for the screen and reports used throughout the system.
50.0	SELocations	3	SQL Server	Operational	This table contains record entries that define the server paths (network folder locations) where certain key correspondence items are found. For example (report location, deal correspondence, etc).
51.0	SEProcessingCodeTypes	15	SQL Server	Operational	This table contains the 'Type' codes to the reference table 'SEProcessingCodes'. An example is the type code of 'CONTRACTPRD' which describes a reference code for contract products.
52.0	SEProcessingCodes	143	SQL Server	Operational	This table contains reference codes for various fields used throughout the Energy Management System.
53.0	SERptsExecutedStats	19,117	SQL Server	Operational	This table contains record entries that lists the start and end date and times for all reports that were submitted. This provides statistics on how long to execute/etc.
54.0	SERptsGroupItems	218	SQL Server	Operational	This table contains entries of each specific report that exists within a reporting tab (group) within a specific reporting folder (category).
55.0	SERptsGroups	36	SQL Server	Operational	This table contains a list of all available reporting tabs (groups) within each reporting folder (category).
56.0	SERptsItemDetail	123	SQL Server	Operational	This table contains the list of all available reports within the system.
57.0	SERptsItemParms	657	SQL Server	Operational	This table contains record entries for each report parameter for each report defined to the system. Options exist for substituting a different label name than actual parameter field name.
58.0	SERptsQueue	5,667	SQL Server	Operational	This table contains record entries for all 'submitted' reports (report queue). When reports are automatically removed from the system the record is removed from this queue.
59.0	SERptsQueueDistribute	7,855	SQL Server	Operational	This table contains entries that dictate how to distribute the output of reports from the queue (fax, email, printer, etc.).
60.0	SERptsQueueNotify	276	SQL Server	Operational	This table contains entries that indicate who (and if) individuals or groups have been notified that the report has finished.
61.0	SERptsSchedule	0	SQL Server	Operational	This table contains records that define schedules for the running of scheduled reports.

Ref #	Table Name	Rows	Database	Subject Area	Description/Comments
62.0	SERptsScheduledReports	0	SQL Server	Operational	This table contains record entries that define which reports to run as part of specific schedules.
63.0	SERptsScheduledGroups	0	SQL Server	Operational	This table contains 'groups' for scheduling. This provides the ability to assign multiple individuals to a specific group and have the group belong to the schedule.
64.0	SERptsScheduledUserGroups	0	SQL Server	Operational	This is the actual table that contains the members within a schedule group. Each entry in this table defines the group.
65.0	SERptsTablesUsed	896	SQL Server	Operational	This table contains documentation on what tables, views or stored procedures are used within each report.
<b>Pipes &amp; Fields Subject Area</b>					
80.0	Meter	4,335	SQL Server	Pipes and Fields	This table contains a record entry for each well/meter that has been setup on the system. The pipe/field, name, county and state are stored here.
81.0	MeterNotes	935	SQL Server	Pipes and Fields	This table contains a record for notes pertaining to meters/wells.
82.0	PipeField	372	SQL Server	Pipes and Fields	This table contains a record entry for each pip/field defined on the system. The company and the pipe/field description are stored here.
83.0	MeterRates	3,980	SQL Server	Pipes and Fields	This table contains the entire pressure base, Btu factors by effective date for specific meters/wells.
84.0	MeterAllocations	551	SQL Server	Pipes and Fields	This table contains entries for the allocation information on the meter/well. This includes accounting cross-reference codes (id and deck).
<b>Pricing Subject Area</b>					
90.0	GCIndex	142,268	SQL Server	Pricing	This table contains record entries by Day for daily index prices AND/OR a single entry for monthly index prices (1 <sup>st</sup> day of month for monthly indices).
91.0	IndexRef	228	SQL Server	Pricing	This represents the master table of all defined price indices within the Energy Management System. One record entry per index exists within this table.
92.0	IndexBaskets	14	SQL Server	Pricing	This table contains a record entry for each index basket established on the system. These index baskets can be associated to sales or purchase deals just as normal indexes are associated to them. Simple averages are calculated with all index items within an index basket.
93.0	IndexBasketLink	36	SQL Server	Pricing	This table contains the actual indices that are currently associated with an index basket. An unlimited number of indices can exist in a basket. A simple average of all the prices within the basket is used.
<b>Routing Subject Area</b>					
101.0	LegRef	4,226	SQL Server	Routing	This table contains record for each unique transportation leg (meter-to-meter) on the Energy Management System.

Ref #	Table Name	Rows	Database	Subject Area	Description/Comments
102.0	Leg	57,830	SQL Server	Routing	This table contains a record for each active leg within a given month. Nomination and actual rates that the leg utilizes during the month are posted on each record. These rates are used with the actual routing instructions (LegDetail table).
103.0	LegD	0	SQL Server	Routing	This table contains OPTIONAL entries for any daily leg rates that need to be utilized within a given month. Daily rates are checked PRIOR to the monthly rates (on the Leg table) when setting up the actual routing instructions (LegDetail table).
104.0	LegDetail	1,716,695	SQL Server	Routing	This table contains the detail routing instructions for all volumes purchased all the way through the sales points for that particular volume. Nomination AND actual routing instructions are stored for each meter/well that had volume activity during the month. All volumes sold can be tracked back to originating purchase points.
105.0	WASPResolvedRouting	34,304	SQL Server	Routing	This table contains record entries that show the pool level calculated totals for all receipt and delivery points within the system. 'Common', 'Dedicated' and 'None' pools are aggregated and the total numbers stored here. Only 'Common' pool volumes and dollars represent the totals from more than one purchase point (shows weighted average pricing based on volumes purchased and/or transported).
<b>Security Subject Area</b>					
110.0	GCUser	27	SQL Server	Security	This table contains a single record entry per unique user (employee) on the system. The character based (up to 12 character) login ID AND an internal user id (integer) are unique keys to this table.
111.0	GCTButton	58	SQL Server	Security	This table contains records that represent the system functions that have specific security rules associated with them on the system. For example a system function of 'DEALS' has been setup in order to define security relationships between users (GCUser table) and this function.
112.0	GCSecurity	1,548	SQL Server	Security	This table stores the relationships between users on the system (GCUser table) and the system function that they have access too (GCTButton table). A specific access privilege is stored for each of these relationships (like READ ONLY, READ/UPDATE, READ/UPDATE/DELETE or SUPER).



Referring now to FIGS. 3A-3N, depicted therein are entity relationship diagrams that illustrate data relationships among tables and corresponding table entries used to implement the systems and methods that carry out the business process illustrated in FIG. 1. The database tables used logically categorized above into the above-identified nine (9) subject areas are maintained within data store 106 (FIG. 1), and are included among the files present on the attached compact disc, and are further defined in detail in FIGS. 3A-3N. Those skilled in the art will readily understand the data relationships among relational database tables as shown in FIGS. 3A-3N. Accordingly, for purposes of brevity, further comments about FIGS. 3A-3N have been omitted.

In addition to the tables described and specified in the tables listed above, the following table illustrates an inventory of the various database views that utilized by the systems and methods provided by the present invention.

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## VIEW DESCRIPTIONS

Below is an inventory of the various database views that are utilized by the Energy Management System:

Ref #	View Name	Description/Comments
1.0	V_SearchDB	Provides a view to search the database stored procedures and triggers for specific text items. Used for assessing the impact of system changes.
2.0	VAccountingRevenueFeed	Database view (3 select UNION) used for creating OGSYS journal and revenue receivable data.
3.0	VCompany	Display of company information (name, address, etc.)
4.0	Vcontact_Accounting	Display the accounting contact for a given company.
5.0	Vcontact_Admin	Display the administrative contact for a given company.
6.0	Vcontact_Control	Display the control contact for a given company.

Ref #	View Name	Description/Comments
7.0	Vcontact_Production	Display the production contact for a given company. This is the contact used for Availability estimates/etc.
8.0	Vcontact_volconfirm	Display the contact responsible for confirming volumes within a given company. This is the contact used for volume confirmations in the 'Availability' phase.
9.0	VcontactFunction	Display a list of all contacts for a given company along with their respective functions (accounting, volume confirmations, etc.)
10.0	VContacts	Display name and addresses for contacts.
11.0	VETID_Dates	Display the engine start, effective and end dates for a given engine transaction id (based on package). This view is used VERY LITTLE because of performance issues.
16.0	VgasInvD_NomChg	Display list of daily volumes where the nomination volumes are different between two successive days.
17.0	VKTermination	Displays specific contract termination information.
18.0	VlegDetail_MeterTotals	Display routing information summarized by meter.
19.0	VlegDetail_PipelineComparison	Display routing information in a format that is used for the pipe/field comparison report. Used for reconciling fuel, gathering, transport, pvr, etc to pipe/field statements.
20.0	VlegDetail_PurchasePointTotals	Display routing information that shows total routing costs/etc for given purchase points (hop 0's).
21.0	VlegDetail_Summary	Displays routing information (summarized) for reporting purposes (purchase meters/wells only).
22.0	VlegDetail_SummarySales	Displays routing information (summarized) for reporting purposes (sales meters/wells only).
23.0	VMeterAllocations	This view is used to list the current meter/well allocations (based on effective date) for each given meter/well. These allocations are the accounting deck and purchaser id information, which can be different from month to month.
24.0	VMeterRates	This view is used to list the current meter/well rates (standard pressure base, pipe/field pressure base, Btu factor, etc.) for each given meter/well. These rates can be different from month to month.
25.0	VOurContact_Accting	Display the current HEC contact for accounting information.
26.0	VOurContact_Prod	Display the current HEC contact for production information.
27.0	VPackage_Info	Display detail list of information concerning a package (includes contacts, names, phones, etc.).
28.0	VPrevGasMonthStuff	Displays current month volume totals versus previous month volume totals.
29.0	VprodConfirmLetters	Display contact information for use with correspondence on production volumes. Specifically used in the confirmation process in the 'Availability' production month phase.
30.0	VprodInterest	Display a list of contracts and meters to confirm the production interests. This is used primarily in the 'Availability' production month phase.
31.0	VRequestProduction	Display list of production interest volume and meter information. This is used primarily in the 'Availability' production month phase and is used when sending out estimate reports to producers.

Once all software and data as described above has been properly installed on one or more server systems 102 and within one or more coupled (networked) client systems 104 as illustrated in FIG. 1, use and operation of the systems and methods provided by the present invention may be commenced.

Such operations may be in relation to the general use application (Energy Management System - EMS) or the limited use/user/function application (Producer Control Console – PCC) provided on the attached compact disc. In either case, the present invention facilitates a client-server application environment that includes, among other things, a user interface that is pleasing to users and which permits easy and ready access to system functions and operations. Such a user interface may be a graphical user interface or GUI that is configured to permit a user to engage in window-operations to bring about database operations that affect fuel deal data and the like in accordance with the present invention. Such a GUI is illustrated by way of screen shots (images of computer monitor screens) that are used to permit generation of, manipulation of, reporting of , and all other system operations relating to fuel deals and corresponding fuel deal data.

For example, reference is now made to FIGS. 4A-4Q which illustrate a data processing application running within a client system to facilitate at least some of the operations carried out to effect the business process illustrated in FIG. 1. FIG. 1, for example, represents an opening main menu screen through which a user may select “PERSONAL” operations related to setting up a personal profile to affect user-preferred presentation of data (e.g., name, screen colors, etc.). Additionally, a user may select “PRICE-INDEX” to affect fuel pricing and index related data. A user may select “COMPANY” to control lists of producers, and other related company entities. A user may select other options corresponding to the steps involved and described with regard to the MONTH OF FLOW PROCESS illustrated and described with reference to FIG. 1.

The other screen shots shown in FIGS. 4B-4Q further illustrate specific features of the GUI that has been designed to facilitate the implementation of

the systems and methods provided by the present invention. For the purpose of brevity, further detailed comments related to such screen shots has been omitted.

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## **SYSTEM IMPLEMENTATION AND FUNCTIONALITY**

As noted above, the present invention utilizes stored procedures in the form of database management system procedures and functions which are executed server-side and client-side to facilitate the present invention's systems and methods. Listed in the following tables, is a detailed break-down of all the stored procedures, tools, and modules used to facilitate such systems and methods. The actual source code and instructions contained within such procedures, functions, and modules is contained on the attached compact disc.

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## **STORED PROCEDURES**

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Below is an inventory of the various database-stored procedures (procedures and functions) that are utilized by the systems and methods provided by the present invention. Each of the stored procedures and functions are written in the Transact-SQL dialect. All of the stored procedures are prefixed with "usp\_" which stands for "User Stored Procedure." This provides an ability to differentiate those procedures bundled with the DBMS versus those created for the systems and methods provided by the present invention:

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[illegible]

Ref #	Stored Procedure Name	Description/Comments
1.0	Usp_DailyCleanup	This procedure is run everyday and is responsible for any cleanup activities (like rolling aged messages off the ApplicationMessages table).
2.0	Usp_fGetCalIndex	Retrieves the weighted average price for a given volume item. This routine is invoked during the WASP calculation in order to obtain the price for the meter/well and post it to the Engine database table.
3.0	Usp_fGetIndex	Retrieves the daily or monthly price index for a given day. Used during the pricing calculation routine.
4.0	Usp_fGetIndexBasket	Retrieves and calculates the index amounts for the price lines whenever an index basket price variable has been entered. This particular function will return the average price (simple average) of all indices within the basket for a given month/day.
5.0	Usp_fGetNetbackPercentage	This function will return the actual netback percentage to be used for a given production month and contract. When it calculates the netback it looks at volumes and tier instructions that have been setup on the contract. The number it returns is the netback percentage to utilize. In addition, this routine brings back the specific percentage to use for the product being calculated (gas, liquids, oil, etc.).

Ref #	Stored Procedure Name	Description/Comments
6.0	Usp_fGetProdInterestID	This routine brings back the production interest information for a particular ownership interest.
7.0	Usp_fGetProdPkg	This procedure brings back the 'deal id' (if one already exists) when posting volumes through the 'Availability' screens. If a deal does not already exist (in the current production month) then a new deal is created and that ID is sent back.
8.0	Usp_fGetWASPIndicator	This function accepts a deal id (package ID) as it's input. It then reads the DealClass table and the rDealClass table(s) to determine if this particular deal should be considered WASPable based on its classification scheme. The return values are either 'None', 'Common' or 'Dedicated'.
9.0	Usp_fGetWaspType	This procedure will send back the WASP type field (GAS, OIL or LIQUIDS) when passed a specific product ID. This procedure is used during the calculation in order to determine which set of netback rules off a contract to use.
10.0	Usp_flLastDay	This procedure accepts a date and sends back the last date in a production month.
11.0	Usp_flLastDay	This procedure accepts a date and sends back the last date in a production month.
12.0	Usp_fPipeContactInfo	This procedure, when passed a pipe/field id, will send back the specific contact information requested (like accounting contact, volume contact, etc.).
13.0	Usp_GasDayToGasMonth	This function will return the production month to use for a given production day.
14.0	Usp_GetProductVolumeRound	This routine will return the rounding precision necessary when calculating volume information for specify products (Oil calculates to 2 decimal places, Gas to zero, etc.).
15.0	Usp_LinePrice	This is the actual procedure that will calculate the Engine records for a given deal (volume related STID 8 or 9 type records).
16.0	Usp_message	This routine handles all of the 'progress' messages that are issued during the calculation, rollover, actualization, and etc. type events on the system. This routine will optionally post this information to the ApplicationMessages table for historical reference (audit).
17.0	Usp_pActualize_BalPurchases	This is the main driver routine for Step 2 of 4 of the actualization process.
18.0	Usp_pActualize_BalPurchasesCheck	This routine will check to see if all of the meters/wells on a given pipe/field have been actualized. If not, then it sends back a bad return code. All meters/wells are required to be 'checked' (actualized) prior to balancing of purchase routing points.
19.0	Usp_pActualize_BalPurchasesClear	This routine is the actual routine that will adjust all purchase meter imbalances. These imbalances are adjusted forward THROUGH the sales point based on nomination routing instructions (used as a map).
20.0	Usp_pActualize_BalSales	This is the main driver routine for Step 3 of 4 of the actualization process.
21.0	Usp_pActualize_BalSalesCheck	This routine will check to see if all of the purchase meters/wells routing balances (from step 2 of 4) are balanced. If any meter/well on the pipe/field is out of balance then this routine sends back a bad return code. All meters/wells on the pipe/field are required to be 'balanced' prior to balancing of the sales points.
22.0	Usp_pActualize_BalSalesClear	This procedure is the final procedure invoked by the usp_pActualize_BalSales main driver procedure. It is responsible for posting imbalance amounts to the internal clearing purchase or sales deals.
23.0	Usp_pActualize_BalSalesOver	This procedure attempts to reconcile any outstanding balances that result in OVER supplying of volume to a particular sale. Nomination information is used by this routine as a 'road map' on how to allocate this volume.
24.0	Usp_pActualize_BalSalesUnder	This procedure attempts to reconcile any outstanding balances that result in UNDER supplying of volume to a particular sale. Nomination information is used by this routine as a 'road map' on how to allocate this volume.
25.0	Usp_pFillIndex	This procedure will initialize the records within the 'GCIndex' table with daily entries (for daily indices) and monthly entries (for monthly indices). The monthly record entries are only on the first day of the month.
26.0	Usp_pFillIndexSingle	This procedure will populate the 'GCIndex' table with a price index entry for a SINGLE index.
27.0	Usp_pGasInvD_Fill	This routine initially populates the daily volumes on the GasInvD table. These are initially populated with zeros (anytime a meter/well is added to a deal).
28.0	Usp_pGasInvD_NomEOM	This routine is used in the 'Availability' area of the EMS system and is used to take a given volume amount and propagate that volume amount to all days in the month.
29.0	Usp_LogAuditInfo	This routine is used to post record to the audit table within the system.
30.0	Usp_pPackageRevision	This routine is used to increment the revision number field on the deal. Certain types of changes to a deal will automatically increment the revision number on a deal and this update is done through this routine.



Ref #	Stored Procedure Name	Description/Comments
60.0	Usp_pSERPT_WhichReport	This routine is used by the standard reporting routines and is responsible for determining WHICH report to use. The default reports are in KreportDefaults table. However, any given contract can override the default (KreportOverrides table).
61.0	Usp_PSPPrice	This is the main pricing routine for the volume inventory items (regular purchases and sales).
62.0	Usp_PSPPriceAll	This is the main procedure for calculating the prices for a given month on a set of deals (volume inventory pricing, STID 8 & 9). Parameters to this stored procedure dictate the type of price to calculation (Nom or Pipe/Field Actual and Sales versus Purchase, etc.).
63.0	Usp_PSPPriceAnyNewInvoicesNeeded	This routine is responsible for assigning new invoice and remittance numbers to the volume inventory table (GasInv). If new meters/wells (volume entries) get entered during the actualization process then this routine will ensure they are assigned unique numbers.
64.0	Usp_PSPPriceAssignInvoiceNo	This routine assigns invoice numbers to all sales deals when the production month is promoted to the 'Invoiced' phase.
65.0	Usp_PSPPriceAuto	This procedure run everyday and checks for any production month either in the 'Sales' or the 'Invoiced' phase. If any production months are within these phases then this procedure will invoke the calculation routine (usp_psPriceAutoMonth) for them.
66.0	Usp_PSPPriceAutoMonth	This is the main driver routine for the calculation of an entire month.
67.0	Usp_PSPPriceComponentsCheck	This procedure will automatically insert system generated price components (like WASP or Netback Percentage) to the Engine_Master table. It is invoked by the usp_PSPPrice procedure when calculating prices on a deal for a given month.
68.0	Usp_PSPPriceCost	This is the routine that calculates the 'Other Cost' entries and posts calculated results in the Engine table.
69.0	Usp_PSPPriceCostAll	This is the main driver routine for looping through all of the 'Other Costs' in a given month and invoking the usp_PSPPriceCost routine for each one.
70.0	Usp_PSPPriceCreateActualEntries	This procedure copies the pricing entries setup on each deal (Engine_MasterPrice) from nom to actuals.
71.0	Usp_PSPPriceMarkActualAdjustments	This procedure gets invoked by the calculation routine to mark any volume inventory item (GasInv) whenever a difference is detected between nominations and actuals.
72.0	Usp_PSPPricePopulateEngine	This procedure will populate the Engine table FROM the Engine_Master table. For daily index price entries this procedure will automatically propagate the daily index price to all days of the month where there is a volume (at least until a new pricing entry is found). Only volume entries are populated here (STID 8 & 9).
73.0	Usp_PSPPriceTransportAll	This routine calculates all of the transport costs for a given production month. These transport costs (and volumes) are posted in the GasInv (pricetype=3) table and deals are posted (if needed). These deals are tagged with the specific transport contract.
74.0	Usp_PSPPriceWASPCalc	Determines and resolves all wasp 'Common' and 'Dedicated' pools. Dedicated pools are sanctioned sales. This is the main driver procedure for the wasp portion of the calculation. Third party (pool = 'None') are also processed within this procedure but not for the intent of obtaining a price for them, totals used primarily for profit margin reporting.
75.0	Usp_PSPPriceWASPCalcResolveDriver	This is the main driver component for driving the WASP calculation.
76.0	Usp_PSPPriceWASPCalcResolveN	Traces back sales totals from all sales meters back to their originating purchase points. The table updated here is the WASPResolvedRouting table. The 'LegDetail' table is used extensively in this calculation. This is a highly ITERATIVE process.
77.0	Usp_PSPPriceWASPCalcResolveSalesN	This procedure creates the entries in the WASPResolvedRouting table and posts original sales volumes and amounts. This is done just prior to the routine that resolves these sales totals back to the purchase points.
78.0	Usp_PSPPriceWASPCalcSalesN	Sums all WASPable sales by sales meter into the WASPSalesMeterTotals table.
79.0	Usp_PSPPriceWASPClearMonth	This routine runs when a production month is promoted to 'Completed' phase. Any volume inventory items (GasInv and/or GasInvD) or routing items (LegDetail) that contain zeros are removed so that only relevant information is stored in the database for historical purposes.
80.0	Usp_PSPPriceWaspDivideOutProceedsN	This procedure is the main procedure that will distribute the proceeds from those deals that have been designated to have their respective proceeds distributed via the 'Financial Overrides' setup on the deal.
81.0	Usp_ProdVolSet	This routine is used in the 'Availability' phase to setup the ownership interest on a particular pipe/field and meter. ProdSum and ProdVol tables for the current production month are populated with this procedure.



Ref #	Stored Procedure Name	Description/Comments
82.0	Usp_ProdVolSetAll	This routine is used in the 'Availability' phase to setup the ownership interest on all pipe/fields and meters. This routine invokes the usp_ProdVolSet routine for each meter/well in the loop.
83.0	Usp_PSRollover	This routine gets invoked when a production month goes from 'Availability' to 'Sales' and is responsible for copying deal information month-to-month.
84.0	Usp_PSRolloverPopActuals3	This routine gets invoked by the usp_PSRollover routine and is responsible for populating noms with previous 3 months actuals numbers (primarily used for Oil).
85.0	Usp_PSRolloverPopNoms	This routine gets invoked by the usp_PSRollover routine and is responsible for populating noms with previous months nom numbers.
86.0	Usp_pStatusChanged	This routine gets invoked anytime the production month status is changed (Initial,Availability,Sales,Invoiced,Accounting,Completed). Other routines are invoked depending on the from and to status for the production month.
87.0	Usp_w.*	Any stored procedure that begins with Usp_w_ has been setup as a one time only procedure that is used to correct any database items/etc. These procedures can be permanently deleted and have no impact on existing functions within EMS.

## Application Software

### TECHNICAL SKILL SET REQUIRED

Support and maintenance of the Energy Management System requires the following technical skill set.

Ref #	Skill Set	Used For...
1.0	SQL-Server (Transact SQL)	All data is stored in MS SQL-Server database tables. This data is accessed via direct SQL statements (embedded in windows applications, stored procedures and reports). There are several database views that have been setup to access aggregated information (for performance and consistency). In addition all of the critical calculations and time consuming procedures (like the main EMS calculation, routing and rollover process) are written as Transact-SQL stored procedures (and documented in this manual).
2.0	Delphi (V5 +) (includes Delphi 3 <sup>rd</sup> party tools)	All client applications are written using this particular RAD tool. In addition to knowing the standard components that come with this tool, any of the 3 <sup>rd</sup> party tools (documented in this manual) are used extensively. See the 3 <sup>rd</sup> party tools listed in the 'Tools Utilized' section for more details.
3.0	Crystal Reports (V8.0)	All reporting within EMS is done utilizing this tool from Seagate software.

### CLIENT, SERVER APPLICATIONS W/TOOLS UTILIZED

This particular section contains the high level documentation relative to the Energy Management System software application. Each item documented is uniquely numbered to aid in reviews and/or future modifications.

Ref #	Item	Response	Comments
1.0	Client Application	Energy Management System	The Energy Management System is written in Delphi 5 (service pack 3 applied). Third party controls and components were used in the development. See other areas of this matrix for 3 <sup>rd</sup> party tools utilized.
2.0	Client Application	Producer Control Center	The Producer Control Center is written in Delphi 5 (service pack 3 applied). Third party controls and components were used in the development. See other areas of this matrix for 3 <sup>rd</sup> party tools utilized. This application provides a restricted view of information specific to the company/contact that is running the application. The data viewed is the same data that is maintained in the EMS system.
3.0	Server Application	Software Experts, Inc. SECrystal (V8.00)	All reporting done within EMS utilizes Crystal reports. This server application runs and stores all output reports for the system. Besides storing an electronic copy of the report, this server can distribute to a printer, fax folder OR an email address if instructed by the EMS application.
4.0	Server Application	Software Experts, Inc. SEFax (V2.00) (outbound faxing)	Some output reports (from SECrystal) are designated to be faxed. This software is responsible for faxing all of the reports that were designated by EMS to be faxed.

Ref #	Item	Response	Comments
5.0	Server Application	Software Experts, Inc. SEServer (V2.00g) (database request server)	All database requests for the Energy Management System AND the Producer Control Center go through this database server component. This server application typically runs on the same machine as the actual database.
6.0	3 <sup>rd</sup> Party Tool/Library	Adobe Acrobat Reader (V4.0 +)	This free tool is used to view reports from EMS. The default for all reports is to print them to a PDF format. This output format is 'overrideable' by the user when the report is submitted. Other formats like Excel, Word, Text, etc. are also supported.
7.0	3 <sup>rd</sup> Party Tool/Library	Seagate Software Crystal Reports (V8.00)	All reports are written using the Crystal reporting tool from Seagate Software). In addition, the report server (SECrystal) utilizes the main Crystal reporting FREE runtime libraries to run these reports for all EMS client requests.
8.0	3 <sup>rd</sup> Party Tool/Library	Dalco Technologies DbOvernet (V2.00)	Delphi VCL components that provide internet (TCP/IP) access. The SEServer application utilizes this middleware.
9.0	3 <sup>rd</sup> Party Tool/Library	TurboPower Software Asynch Pro (V3.04)	The SEFax fax server application utilizes this 3 <sup>rd</sup> party Delphi VCL component list for sending and/receiving faxes. The SECrystal reporting server application uses this library to write out 'fax ready' files.
10.0	3 <sup>rd</sup> Party Tool/Library	TurboPower Software Orpheus (V3.08)	Many of the online screens for all client and server applications utilize the Orpheus controls for screen grid lists, combo boxes, etc. The server applications were written with this tool set also.
11.0	3 <sup>rd</sup> Party Tool/Library	TurboPower Software SysTools (V3.02)	Many of the online screens for all client and server applications utilize the SysTools components for string manipulations, spawning tasks, etc.
12.0	3 <sup>rd</sup> Party Tool/Library	Woll2Woll Software InfoPower 2000.17	Many of the online screens for all client and server applications utilize these controls for screen grid lists, combo boxes, etc. The server applications were written with this tool set also.
13.0	3 <sup>rd</sup> Party Tool/Library	Inner Media Software Dynazip (V4.00)	These are Delphi software components that are for compression/decompression of files to and from the server. This is used by both the client and server applications.
14.0	3 <sup>rd</sup> Party Tool/Library	Public Domain TEmail (V2.10)	This is a Delphi software component and is used by the client and server applications. It is responsible for the email interface.
15.0	3 <sup>rd</sup> Party Tool/Library	TMS Software TwebUpdate (V1.00)	This is a Delphi software component that provides for 'over the internet' automatic software upgrades. The client applications each utilize this component.
16.0	3 <sup>rd</sup> Party Tool/Library	Skyline Software, Inc. ImageLib Suite (V5.00)	These are Delphi software components that provide for graphic images displayed within the application. In addition, this software provides scanner input capabilities.

#### CLIENT APPLICATIONS, MODULE LIST/DESCRIPTIONS

This particular section contains the high level documentation relative to each software application module within the Energy Management System. Each item documented is uniquely numbered to aid in reviews and/or future modifications. The application reference listed below will either indicate EMS (Energy Management System) and/or PCC (Producer Control Center). This shows the level of interoperability between these two client applications. All of these modules are written in Delphi (Object Pascal, (Visual)).

Ref #	Module Name	Module Type	Application	Description/Comments
1.0	DBAddress	Data Module	EMS PCC	This module contains all of the database communication components for the Address ('Company and Contact Addresses') table.
2.0	DBCommonDatabase	Data Module	EMS PCC	This module is responsible for setting all of the common properties for all other data modules within the system. Prior to invoking a query, all other database modules will invoke methods within this module to set communication ports, maximum number of records, etc. This module also stores the actual user id and contains methods for accessing this field.

Ref #	Module Name	Module Type	Application	Description/Comments
3.0	DBCommonFileOperations	Data Module	EMS PCC	This module handles all of the 'flat file' operations (compressing/decompressing/etc.) that is involved with the applications. Any temporary files that need to be created are also controlled by this data module.
4.0	DBCompany	Data Module	EMS PCC	This module contains all of the database communication components for the Company ('Company Information') table.
5.0	DBContactFunction	Data Module	EMS PCC	This module contains all of the database communication components for the ContactFunction ('Roles within their respective companies that contacts play') table.
6.0	DBContacts	Data Module	EMS PCC	This module contains all of the database communication components for the Contacts ('Individual contacts within companies') table.
7.0	DBContactGroup	Data Module	EMS PCC	This module contains all of the database communication components for the ContactGroup (Links contacts to groups they may be affiliated with) table.
8.0	DBContact_GroupNames	Data Module	EMS	This module contains all of the database communication components for the Contact_GroupNames (table contains a record for each group within the system) table.
9.0	DBEngine	Data Module	EMS	This module contains all of the database communication components for the Engine (contains transaction records for each volume inventory transaction item associated with the deal) table.
10.0	DBEngine_Master	Data Module	EMS	This module contains all of the database communication components for the Engine_Master (User enterable pricing area 'header' record) table.
11.0	DBEngine_MasterPrice	Data Module	EMS	This module contains all of the database communication components for the Engine_MasterPrice (User enterable pricing area 'detail' records (price tags)) table.
12.0	DBEngine_TransactionList	Data Module	EMS	This module contains all of the database communication components for the Engine_TransactionList (transaction descriptions) table.
13.0	DBExceptionCategories	Data Module	EMS PCC	This module contains all of the database communication components for the ExceptionCategories ('Reasons for Exceptions') table.
14.0	DBExceptionList	Data Module	EMS PCC	This module contains all of the database communication components for the ExceptionList ('Actual Exception Events') table.
15.0	DBGasInv	Data Module	EMS	This module contains all of the database communication components for the GasInv (Volume inventory 'header') table.
16.0	DBGasInvD	Data Module	EMS	This module contains all of the database communication components for the GasInvD (Volume inventory Daily 'detail') table.
17.0	DBGCButton	Data Module	EMS PCC	This module contains all of the database communication components for the GCButton ('Business Functions') security table.
18.0	DBGCIndex	Data Module	EMS PCC	This module contains all of the database communication components for the GCIndex (Daily & Monthly Price Indices) table.
19.0	DBGCSecurity	Data Module	EMS PCC	This module contains all of the database communication components for the GCSecurity (Security Authorizations) for the applications.
20.0	DBGCUser	Data Module	EMS PCC	This module contains all of the database communication components for the GCUser (User Profiles) table within the applications.
21.0	DBImages	Data Module	EMS	This module contains all of the database communication components for the SEImages (company logos, etc.) table within the application.
21.0	DBIndexBasketLink	Data Module	EMS PCC	This module contains all of the database communication components for the IndexBasketLink (Links actual indices to a particular basket) table within the application.
22.0	DBIndexBaskets	Data Module	EMS PCC	This module contains all of the database communication components for the IndexBaskets (Grouping of indices to be used in a 'simple' averaging calculation) table within the application.

Ref #	Module Name	Module Type	Application	Description/Comments
23.0	DBIndexRef	Data Module	EMS PCC	This module contains all of the database communication components for the IndexRef (Each price index within the system contains a record entry here) table within the application.
24.0	DBK	Data Module	EMS	This module contains all of the database communication components for the K (Contracts table within the application).
25.0	DBKNetBack	Data Module	EMS	This module contains all of the database communication components for the KNetBack (Contracts Netback Percentage Tiers) table within the application.
26.0	DBKNotes	Data Module	EMS	This module contains all of the database communication components for the KNotes (Contract Notes) table within the application.
27.0	DBKProducts	Data Module	EMS	This module contains all of the database communication components for the KProducts (products that are available within contracts) table within the application.
28.0	DBKReportDefaults	Data Module	EMS	This module contains all of the database communication components for the KReportDefaults (standard report defaults) table within the application.
29.0	DBKReportOverrides	Data Module	EMS	This module contains all of the database communication components for the KReportOverrides (standard report overrides for a contract) table within the application.
30.0	DBKServices	Data Module	EMS	This module contains all of the database communication components for the KServices (services that are available within contracts) table within the application.
31.0	DBLeg	Data Module	EMS	This module contains all of the database communication components for the Leg (available routes and rates for the production month) table within the application.
32.0	DBLegD	Data Module	EMS	This module contains all of the database communication components for the LegD (available DAILY routes and rates for the production) table within the application.
33.0	DBLegDetail	Data Module	EMS	This module contains all of the database communication components for the LegDetail (specific routing instructions for all volumes purchased and sold) table within the application.
34.0	DBLegRef	Data Module	EMS	This module contains all of the database communication components for the LegRef (master list of routes and rates) table within the application.
35.0	DBLocations	Data Module	EMS PCC	This module contains all of the database communication components for SELocations (locations) table within the application.
36.0	DBMessages	Data Module	EMS PCC	This module contains all of the database communication components for the SEMessages (system messages) table within the application.
37.0	DBMeter	Data Module	EMS	This module contains all of the database communication components for the Meter/Well table within the application.
38.0	DBMeterAllocations	Data Module	EMS	This module contains all of the database communication components for the MeterAllocations (ownership interests in volume from a meter/well) table within the application.
39.0	DBMeterNotes	Data Module	EMS	This module contains all of the database communication components for the MeterNotes table within the application.
40.0	DBMeterRates	Data Module	EMS	This module contains all of the database communication components for the MeterRates (pressure base, Btu factor, etc. from a meter/well) table within the application.
41.0	DBMiscQueries	Data Module	EMS PCC	This module contains all of the miscellaneous queries that were created to enable views of various tables within the application.
42.0	DBPackage	Data Module	EMS	This module contains all of the database communication components for the Package (Deals) table within the application.
43.0	DBPackageCorrespondence	Data Module	EMS	This module contains all of the database communication components for the PackageCorrespondence (electronic copies of documents associated with deals) table within the application.

Ref #	Module Name	Module Type	Application	Description/Comments
44.0	DBPackageCosts	Data Module	EMS	This module contains all of the database communication components for the PackageCosts ('Other Costs' associated with deals) table within the application.
45.0	DBPipeField	Data Module	EMS	This module contains all of the database communication components for the PipeField (Pipe/Field information) table within the application.
46.0	DBPriceComponents	Data Module	EMS	This module contains all of the database communication components for the PriceComponents (tags to associate to each portion of a price) table within the application.
47.0	DBPriceDesc	Data Module	EMS	This module contains all of the database communication components for the PriceDesc (Deal free form price description) table within the application.
48.0	DBPrinterDef	Data Module	EMS	This module contains all of the database communication components for the PrinterDef (printer definitions) table within the application.
49.0	DBProcessingCodes	Data Module	EMS PCC	This module contains all of the database communication components for the SEProcessingCodes (reference code description) table within the application.
50.0	DBProcessingCodeTypes	Data Module	EMS	This module contains all of the database communication components for the SEProcessingCodeTypes (type codes that classify sets of reference codes) table within the application.
51.0	DBProducerMessage	Data Module	PCC	This module contains all of the database communication components for the ProducerMessage (dynamic messages posted to producers) table within the application.
52.0	DBProdInterest	Data Module	EMS	This module contains all of the database communication components for the ProdInterest (Availability royalty interests) table within the application.
53.0	DBProdPKG	Data Module	EMS	This module contains all of the database communication components for the ProdPKG (Availability deal ID to ProdVol cross reference) table within the application.
54.0	DBProdSum	Data Module	EMS	This module contains all of the database communication components for the ProdSum (Availability summary totals by meter/well) table within the application.
55.0	DBProdVol	Data Module	EMS	This module contains all of the database communication components for the ProdVol (Availability detail owner interest totals by meter/well) table within the application.
56.0	DBrDealClass	Data Module	EMS	This module contains all of the database communication components for the rDealClass (All of the available deal classifications) table within the application.
57.0	DBrDealClassA	Data Module	EMS	This module contains all of the database communication components for the rDealClassA (all possible answers available to the deal class rules (rDealClass table)) table within the application.
58.0	DBrDealClassRules	Data Module	EMS	This module contains all of the database communication components for the rDealClassRules (all rules associated with every combination of deal classification) table within the application.
59.0	DBrGasMonth	Data Module	EMS PCC	This module contains all of the database communication components for the rGasMonth (an entry exists here for every possible month within the system, with status information) table within the application.
60.0	DBRptsControl	Data Module	EMS PCC	This module represents the main driver module for submitting reports.
61.0	DBRptsExecutedStats	Data Module	EMS PCC	This module contains all of the database communication components for the SERptsExecutedStats (Execution statistics for reports) table within the application.
62.0	DBRptsGroupItems	Data Module	EMS PCC	This module contains all of the database communication components for the SERptsGroupItems (List of reports available within each tab/folder) table within the application.
63.0	DBRptsGroups	Data Module	EMS PCC	This module contains all of the database communication components for the SERptsGroups (List of all tabs within each reporting folder) table within the application.



Ref #	Module Name	Module Type	Application	Description/Comments
83.0	RTDBEngine_Master	Business Rules	EMS	All business rules and edits associated with the application engine pricing entry (Engine_Master table) are within this particular module.
84.0	RTDBEngine_MasterPrice	Business Rules	EMS	All business rules and edits associated with the application engine pricing components (w/price tags) entry (Engine_MasterPrice table) are within this particular module.
85.0	RTDBEngine_TransactionList	Business Rules	EMS	All business rules and edits associated with the application engine transaction master list (Engine_TransactionList table) are within this particular module.
86.0	RTDBExceptionCategories	Business Rules	EMS PCC	All business rules and edits associated with the application exception categories (ExceptionCategories table) are within this particular module.
87.0	RTDBExceptionList	Business Rules	EMS PCC	All business rules and edits associated with the application exception list (ExceptionList table) are within this particular module.
88.0	RTDBGasInv	Business Rules	EMS	All business rules and edits associated with the application volume inventory transaction header (GasInv table) are within this particular module.
89.0	RTDBGasInvD	Business Rules	EMS	All business rules and edits associated with the application volume inventory transaction detail daily (GasInvD table) are within this particular module.
90.0	RTDBGCButton	Business Rules	EMS PCC	All business rules and edits associated with the application business functions (GCButton table) are within this particular module.
91.0	RTDBGCIndex	Business Rules	EMS PCC	All business rules and edits associated with the application price indices (GCIndex table) are within this particular module.
92.0	RTDBGCSecurity	Business Rules	EMS PCC	All business rules and edits associated with the application security authorizations (GCSecurity table) are within this particular module.
93.0	RTDBGCUser	Business Rules	EMS PCC	All business rules and edits associated with the application users (GCUser table) are within this particular module.
94.0	RTDBImages	Business Rules	EMS	All business rules and edits associated with the application graphic images (SEImages table) are within this particular module.
95.0	RTDBIndexBasketLink	Business Rules	EMS PCC	All business rules and edits associated with the application index price basket link (IndexBasketLink table) are within this particular module.
96.0	RTDBIndexBaskets	Business Rules	EMS PCC	All business rules and edits associated with the application index price baskets (IndexBaskets table) are within this particular module.
97.0	RTDBIndexRef	Business Rules	EMS PCC	All business rules and edits associated with the application price index master list (IndexRef table) are within this particular module.
98.0	RTDBK	Business Rules	EMS	All business rules and edits associated with the application contracts (K table) are within this particular module.
99.0	RTDBKNetBack	Business Rules	EMS	All business rules and edits associated with the application contract netback pricing tiers (KNetBack table) are within this particular module.
100.0	RTDBKNotes	Business Rules	EMS	All business rules and edits associated with the application contract free form note area (KNotes table) are within this particular module.
101.0	RTDBKProducts	Business Rules	EMS	All business rules and edits associated with the application contract products area (KProducts table) are within this particular module.
102.0	RTDBKReportDefaults	Business Rules	EMS	All business rules and edits associated with the application contract standard report defaults area (KReportDefaults table) are within this particular module.
103.0	RTDBKReportOverndes	Business Rules	EMS	All business rules and edits associated with the application contract standard report overrides area (KReportOverndes table) are within this particular module.
104.0	RTDBKServices	Business Rules	EMS	All business rules and edits associated with the application contract services area (KServices table) are within this particular module.

Ref #	Module Name	Module Type	Application	Description/Comments
105.0	RTDBLeg	Business Rules	EMS	All business rules and edits associated with the application leg (monthly) area (Leg table) are within this particular module.
106.0	RTDBLegD	Business Rules	EMS	All business rules and edits associated with the application leg (daily) area (LegD table) are within this particular module.
107.0	RTDBLegDetail	Business Rules	EMS	All business rules and edits associated with the application leg detail (main routing) area (LegDetail table) are within this particular module.
108.0	RTDBLegRef	Business Rules	EMS	All business rules and edits associated with the application leg master list area (LegRef table) are within this particular module.
109.0	RTDBLocations	Business Rules	EMS PCC	All business rules and edits associated with the application locations (SELocations table) are within this particular module.
110.0	RTDBMessages	Business Rules	EMS PCC	All business rules and edits associated with the application messages (SEMessages table) are within this particular module.
111.0	RTDBMeter	Business Rules	EMS	All business rules and edits associated with the application meters (Meter table) are within this particular module.
112.0	RTDBMeterAllocations	Business Rules	EMS	All business rules and edits associated with the application meter ownership allocations (MeterAllocations table) are within this particular module.
113.0	RTDBMeterNotes	Business Rules	EMS	All business rules and edits associated with the application meter comment areas (MeterNotes table) are within this particular module.
114.0	RTDBMeterRates	Business Rules	EMS	All business rules and edits associated with the application meter rate areas (MeterRates table) are within this particular module.
115.0	RTDBPackage	Business Rules	EMS	All business rules and edits associated with the application deals (Package table) are within this particular module.
116.0	RTDBPackageCorrespondence	Business Rules	EMS	All business rules and edits associated with the application deal correspondence (PackageCorrespondence table) are within this particular module.
117.0	RTDBPackageCosts	Business Rules	EMS	All business rules and edits associated with the application deal 'Other Costs' (PackageCosts table) are within this particular module.
118.0	RTDBPipeField	Business Rules	EMS	All business rules and edits associated with the application pipes/fields (PipeField table) are within this particular module.
119.0	RTDBPriceComponents	Business Rules	EMS	All business rules and edits associated with the application price components (PriceComponents table) are within this particular module.
120.0	RTDBPriceDesc	Business Rules	EMS	All business rules and edits associated with the application deal pricing free form text area (PriceDesc table) are within this particular module.
121.0	RTDBPrinterDef	Business Rules	EMS	All business rules and edits associated with the application printer definitions (PrinterDef table) are within this particular module.
122.0	RTDBProcessingCodes	Business Rules	EMS PCC	All business rules and edits associated with the application processing codes (SEProcessingCodes table) are within this particular module.
123.0	RTDBProcessingCodeTypes	Business Rules	EMS	All business rules and edits associated with the application processing code types (SEProcessingCodeTypes table) are within this particular module.
124.0	RTDBProdInterest	Business Rules	EMS	All business rules and edits associated with the application 'Availability' royalty interests (ProdInterest table) are within this particular module.
125.0	RTDBProdPKG	Business Rules	EMS	All business rules and edits associated with the application 'Availability' deal to ProdVol cross-reference (ProdPKG table) are within this particular module.
126.0	RTDBProdSum	Business Rules	EMS	All business rules and edits associated with the application 'Availability' monthly meter summary (ProdSum table) are within this particular module.
127.0	RTDBProdVol	Business Rules	EMS	All business rules and edits associated with the application 'Availability' monthly ownership volume (ProdVol table) are within this particular module.



Ref #	Module Name	Module Type	Application	Description/Comments
128.0	RTDBrDealClass	Business Rules	EMS	All business rules and edits associated with the application deal classification options (rDealClass table) are within this particular module.
129.0	RTDBrDealClassA	Business Rules	EMS	All business rules and edits associated with the application deal classification answers (rDealClassA table) are within this particular module.
130.0	RTDBrDealClassRules	Business Rules	EMS	All business rules and edits associated with the application deal classification wasp rules (rDealClassRules table) are within this particular module.
131.0	RTDBrGasMonth	Business Rules	EMS PCC	All business rules and edits associated with the application production month (rGasMonth table) are within this particular module.
132.0	RTDBRptsExecutedStats	Business Rules	EMS PCC	All business rules and edits associated with the application execution statistics for reporting (SERptsExecutedStats table) are within this particular module.
133.0	RTDBRptsGroupItems	Business Rules	EMS PCC	All business rules and edits associated with the application tab items for reporting (SERptsGroupItems table) are within this particular module.
134.0	RTDBRptsGroups	Business Rules	EMS PCC	All business rules and edits associated with the application tabs for reporting (SERptsGroups table) are within this particular module.
135.0	RTDBRptsItemDetail	Business Rules	EMS PCC	All business rules and edits associated with the application report files used for reporting (SERptsItemDetail table) are within this particular module.
136.0	RTDBRptsItemParms	Business Rules	EMS PCC	All business rules and edits associated with the application report file parameters used for reporting (SERptsItemParms table) are within this particular module.
138.0	RTDBRptsQueue	Business Rules	EMS PCC	All business rules and edits associated with the application report submission queue used for reporting (SERptsQueue table) are within this particular module.
139.0	RTDBRptsQueueDistribute	Business Rules	EMS PCC	All business rules and edits associated with the application report queue distribution options used for reporting (SERptsQueueDistribute table) are within this particular module.
140.0	RTDBRptsQueueNotify	Business Rules	EMS PCC	All business rules and edits associated with the application report queue submission notifications used for reporting (SERptsQueueNotify table) are within this particular module.
141.0	RTDBRptsSchedule	Business Rules	EMS PCC	All business rules and edits associated with the application report schedules used for reporting (SERptsSchedule table) are within this particular module.
142.0	RTDBRptsScheduledReports	Business Rules	EMS PCC	All business rules and edits associated with the application report schedule actual reports used for reporting (SERptsScheduledReports table) are within this particular module.
143.0	RTDBRptsScheduleGroups	Business Rules	EMS PCC	All business rules and edits associated with the application report schedule groups used for reporting (SERptsScheduleGroups table) are within this particular module.
144.0	RTDBRptsScheduleUserGroups	Business Rules	EMS PCC	All business rules and edits associated with the application report schedule users (in groups) used for reporting (SERptsScheduleUserGroups table) are within this particular module.
145.0	RTDBRptsTablesUsed	Business Rules	EMS PCC	All business rules and edits associated with the application report tables used for reporting (SERptsTablesUsed table) are within this particular module.
146.0	RTMessageStackClient	Business Rules	EMS PCC	This particular module is responsible for maintaining the current list of messages that will be displayed to the user. This module will provide for the storing of up to 50 messages (in memory tables) in between enter button or mouse clicks. This provides for any/all error messages concerning a specific event to be displayed at once versus one at a time.
147.0	FrmAbout	Form	EMS PCC	This form provides descriptive information about the application (version number, copyright notice, email and website support links, etc).

Ref #	Module Name	Module Type	Application	Description/Comments
148.0	FmActualizePurchases	Form	EMS	This form provides the method for performing (Step 2 of 4) of the actualization process within EMS.
149.0	FmActualizeSales	Form	EMS	This form provides the method for performing (Step 3 of 4) of the actualization process within EMS.
150.0	FmAddressDetail	Form	EMS	This form provides for the updating of addresses for contacts and companies. The table that gets updated behind the scenes is the Address table.
151.0	FmAddressList	Form	EMS	This form provides a list of all available addresses that have already been setup for a company. Options on this form include an ability to change, add or delete address lines from the list.
152.0	FmBusinessFunctionsDetail	Form	EMS	This form provides for the updating of the business functions that are available within the Energy Management System AND the Producer Control Center. The table that gets updated (behind the scenes) is the 'GCBUTTON' table.
153.0	FmBusinessFunctionsList	Form	EMS	This form provides a list of all available business functions that are currently within the Energy Management System AND the Producer Control Center. Options exist here to add, change and delete business functions. Each of these business functions represent areas within the application for setting system security.
154.0	FmCommon	Form	EMS PCC	This form provides for all of the common properties used by all forms. This form can be accessed via the main menus by selecting system properties. All of the color schemes, graphic images, etc. that are used by the system are included on this form. At runtime, all other forms within the system will invoke public methods within this form to set their respective screen fields.
155.0	FmCompanyDetail	Form	EMS	This form provides the mechanism for updating detail information pertaining to a specific company. This includes identification of a primary company address.
156.0	FmCompanyList	Form	EMS	This form provides a grid list of all companies that are currently stored on EMS. Options on this form include extensive lookup and tab options.
157.0	FmContactDetail	Form	EMS	This form provides the form for updating detail information about a contact at a particular company. This includes group memberships, functions, etc.
158.0	FmContactFunctionDetail	Form	EMS	This form provides the mechanism for associating a contact within a company to a specific job function at that company (i.e. Accounting, production, etc.).
159.0	FmContactGroupDetail	Form	EMS	This form provides the mechanism for creating or updating contact groups on the system.
160.0	FmContactGroupList	Form	EMS	This form lists all available contact groups on the system. Options on this form include the ability to add, change or delete a contact group.
161.0	FmContactList	Form	EMS	This form lists all contacts within all companies. Options on this form include an ability to add, change or delete a specific contact (with appropriate security). In addition, there are extensive data lookup capabilities.
162.0	fmContactSecurityAuth	Form	EMS	This form provides for the entry of external company security authorization rules (i.e. Enabling access to Producer Control Center, etc.).
163.0	FmContractDetail	Form	EMS	This form represents the detail form for entering contract specific information (netback pricing information, contract name, terms, provisions, etc.).
164.0	FmContractList	Form	EMS	This form provides a grid list of all existing contracts on the system. Options exist on this form to add, change or delete a contract. This form also includes extensive lookup and company letter tab's for searching all contracts.
165.0	FmDailyPrices	Form	PCC	This form shows the graphs of the revenue detail information on the Producer Control Center.
166.0	FmDealClassificationUpdates	Form	EMS	This form provides the mechanism for changing any calculation rules associated with a given combination of deal classification codes. The WASP inclusion indicator is stored on this table.
167.0	fmDealCorrespondenceDetail	Form	EMS	This form provides an entry form for attaching electronic correspondence to a deal.

Ref #	Module Name	Module Type	Application	Description/Comments
168.0	FmDealCostsEntryDetail	Form	EMS	This form provides for the entry of 'Other-Costs' associated with a particular deal.
169.0	FmDealDetail	Form	EMS	This is the main detail form that shows all of the information relative to a deal.
170.0	FmDealEntryNew	Form	EMS	This form represents a popup box that is displayed when a new deal has been requested. This box prompts the user for the type of deal (purchase or sale) and what product and service it is applicable toward.
171.0	FmDealList	Form	EMS	This form provides a listing of all 'Purchase' or 'Sales' deals within a given month on a grid. Options exist on this screen to add, change or delete a deal.
172.0	FmDealPrice	Form	EMS PCC	This is the form that is used whenever a user wants to calculate the prices for a given volume within a given month. The only options on this form are to 'Price All' and only for those production months and volumes that are applicable (based on monthly status).
173.0	FmDealPriceEntryDetail	Form	EMS	This is the main form for entering deal price information within the Energy Management System. The primary underlying tables that get updated include Engine_Master and Engine_MasterPrice.
174.0	FmException	Form	EMS PCC	This form is invoked whenever a system exception occurs within the system. In order to complete the exception a particular user must have a 'Super ID' for the function and he/she must provide an exception reason with a description.
175.0	FmExceptionCategoriesDetail	Form	EMS	This form provides for a detail update screen to update reason code information for a given type of exception.
176.0	fmExceptionCategoriesList	Form	EMS	This form provides a listing grid of all reason code exceptions for a given type of exception.
177.0	FmGraphicViewer	Form	EMS	This form provides an ability to view graphic images and/or scan in graphic images from a scanner. These images can be attached to a deal.
178.0	fmGroupMemberDetail	Form	EMS	This form represents the detail form for associating a contact as a member of a specific group.
179.0	FmImagesDetail	Form	EMS	This form represents the detail form used for posting updates to the application graphic images (logo's, etc.).
180.0	FmImagesList	Form	EMS	This form provides a list of all graphic images (logos) that are currently stored in the system.
181.0	FmIndexBasketDetail	Form	EMS	This form provides a detail update screen to update index price basket information.
182.0	FmIndexBasketLinkDetail	Form	EMS	This form provides a detail update form to allow for the updating of index links to particular baskets.
183.0	FmIndexBasketList	Form	EMS	This form provides a listing grid of all index baskets on the system.
184.0	FmLegDailyDetail	Form	EMS	This form provides the detail rate information associated with a daily leg rate (which overrides the monthly rate when setup on EMS).
185.0	FmLegDailyList	Form	EMS	This form provides a listing of all daily rates that may be setup for a particular leg.
186.0	FmLegDetail	Form	EMS	This form provides the detail rate information associated with the a given leg, on a given production month within the system. Both nomination and actual rate information is available.
187.0	FmLegHistory	Form	EMS	This form provides a historical list of all monthly leg rates that have been established for a given leg.
188.0	FmLegList	Form	EMS	This form provides a list of all legs on the system. Options exist from this screen to select and change (modify) the specific rate information about a leg.
189.0	FmLegMonthlyView	Form	EMS	This form represents a 'view' form that provides a read-only view of all volumes transported in, out, sold and/or on balance for a specific meter.
190.0	FmLegPurchaseLinkMonthlyView	Form	EMS	This form represents a 'view' form that provides a read-only view of all the purchase deals (volumes) that have been attributed to a selected sale.
191.0	FmLegPurchaseLinkView	Form	EMS	This form represents a 'view' form that provides a read-only view of all purchases linked to a specific sale on a given day.





Ref #	Module Name	Module Type	Application	Description/Comments
231.0	fmPriceIndexUpdates	Form	EMS	This form provides a list of all prices for the daily Index Prices. When entering this form the default date is set to the current date. When prices are being entered on 'Mondays' there is a 'copy to previous weekend' button which will allow for all prices to be propagated back to the previous weekend. Monthly index prices are entered on day 1 only for a given month.
232.0	FmPriceIndicesDetail	Form	EMS	This form provides a screen for updating the price index information on the database (IndexRef table). This includes display order, name, etc.
233.0	fmPriceIndicesList	Form	EMS	This form provides an 'updateable' grid list that shows all price indices on the system. Options exist here to invoke the add/update function (fmPriceIndicesDetail).
234.0	fmPricesByIndexList	Form	EMS PCC	This form provides a graphic and tabular view of index prices for a given month.
235.0	FmPrinterDetail	Form	EMS	This form provides a detail entry form for updating the printer information stored on the system.
236.0	fmPrinterList	Form	EMS	This form provides a list form that shows all printers currently defined on the system.
237.0	FmProcessingCodesDetail	Form	EMS	This form provides the detail form for updating a given set of reference (processing codes).
238.0	FmProcessingCodesList	Form	EMS	This form provides the list form for showing all of the processing codes. Options exist on this form to add, update or delete a given code.
239.0	FmProcessingCodesPick	Form	EMS	This form provides an ability to 'pick' a particular reference code and send it back to the form that invoked the screen.
240.0	FmProcessingCodeTypesDetail	Form	EMS	This form provides the detail form for updating a given set of processing code types (types of reference codes).
241.0	fmProcessingCodeTypesList	Form	EMS	This form provides the list form for showing all of the processing code types. Options exist on this form to add, update or delete a given type.
242.0	FmProdVolCofirms	Form	EMS	This form provides the mechanism for recognizing volumes that were returned by producers. In addition, options exist on this form to send out producer confirmations.
243.0	FmProdVolHist	Form	EMS	This form provides a history list of royalty and makeup percentage interests, by owner, for a given meter/well.
244.0	FmProdVolList	Form	EMS	This form provides the mechanism for entering initial volumes (expected availability) from producers. Option exist on this form to send out producer availability estimate reports.
245.0	FmReportDefaultsDetail	Form	EMS	This form provides a detail screen for setting up the default reports that will be used by entity, product and service on the system. These reports include invoices, vouchers, remittance, etc.
246.0	FmReportDefaultsList	Form	EMS	This form provides a list screen for showing all of the default reports that are setup by entity, product and service on the system. These reports include invoices, vouchers, remittance, etc.
247.0	FmReportOverridesDetail	Form	EMS	This form provides a detail screen for setting up the override reports that will be used by entity, product and service on the system ASSOCIATE TO A SPECIFIC CONTRACT. These reports include invoices, vouchers, remittance, etc.
248.0	FmReportsList	Form	EMS PCC	This is the primary form used for displaying a reporting folder. Within this folder are all of the reporting 'tabs' that are available. Within each tab are all of the specific reports that can be run. A submission, and view button are available here.
249.0	FmReportsParameters	Form	EMS PCC	This is the form that is used when entering the various parameters when a report is submitted. Defaults are automatically supplied and the parameters are listed in a grid list format.
250.0	fmReportsView	Form	EMS PCC	This is the main view form for viewing all of the submitted reports. Options exist to view the reports specifically submitted by a user OR to view the reports that were submitted by the scheduler.

Ref #	Module Name	Module Type	Application	Description/Comments
251.0	fmSecurityAuthDetail	Form	EMS	This form represents the form for establishing and updating security authorizations between users and business functions within the Energy Management System. Options exist here to allow for users to have NO ACCESS, READ ONLY, READ/UPDATE, READ/UPDATE/DELETE or SUPER access to a particular area of application.
252.0	fmSecurityAuthList	Form	EMS	This form provides a listing of all security authorizations that are set for each user on the Energy Management System. Options exist on this form to add, update and delete specific security authorizations for any given user of the system.
253.0	FmsRptsInvoice	Form	EMS	This is the primary form used for submitting standard invoice reports.
254.0	FmsRptsRemittance	Form	EMS	This is the primary form used for submitting standard remittance reports.
255.0	fmsRptsVoucher	Form	EMS	This is the primary form used for submitting standard voucher reports.
256.0	FmTransactionDetail	Form	EMS	This form provides for the entry of 'Other Cost' transactions within EMS. Once these transactions are setup in the system, then they can be attached to deals and calculations will be done against them.
257.0	FmTransactionList	Form	EMS	This form provides a list of all the 'Other Cost' transactions that have been setup on the system.
258.0	fmUserProfilesDetail	Form	EMS	This form represents the creation and update form for all users on the Energy Management System. This form provides an administrator with the ability to change name, password, title, default printer, etc. for all users on the system.
259.0	fmUserProfilesList	Form	EMS	This form provides a listing of all users that are capable of using the Energy Management System. Options exist on this form to add, update or delete a specific user.
260.0	fmGasControlMainMenu	Form	EMS	This form represents the main menu for the Energy Management System. All menu options, speed buttons, etc are stored on this form. This particular form is also responsible for invoking the methods to establish a connection and set the form screen attributes (based on user preferences).
261.0	fmProducerControlCenterMain	Form	PCC	This form represents the main menu for the Producer Control Center. All menu options, speed buttons, etc are stored on this form. This particular form is also responsible for invoking the methods to establish a connection and set the form screen attributes (based on user preferences).

## APPLICATION (CLIEN-SIDE) SOFTWARE

The table that follows contains the high-level documentation related to the systems and methods provided by the present invention and, in particular, those sub-functions and applications that run client-side in the context of the present invention. In the table that follows, the terms EMS and PCC are used to differentiate (as described above), between a full use application system and a limited use/user/function application system that are provided by the present invention. The actual source code for such application software is contained among the files found on the attached compact disc.

## PRICING AND PRICING TECHNIQUES

So far in the aforementioned detailed discussion the present invention, it has been assumed that the particular pricing techniques may be employed to price one or more fuel deals automatically. The present invention certainly permits fuel deals to be priced based on a variety of factors germane to the energy field. Additionally, the systems and methods provided by the present invention permit fuel deals to be priced automatically, in batch or otherwise, based on pricing techniques which are modularized and which are carried out automatically based on prior or other collections of fuel deals and other fuel deal data. Accordingly, teams of sales personnel can have deals priced based on company specifications to meet margin requirements, etc.

One such technique implemented as a modularized process capable of pricing one or more fuel deals in accordance with the present invention is referred to as the WASP technique which stands for the Weighted Average Selling Price technique. WASP permits one or more fuel deals (usually a collection) to be priced to meet organization pricing targets (and margin requirements) based on computed average sales prices across collections of fuel deals. The WASP technique and its supporting computer software are contained herein for purposes of example to illustrate the novelty of having a system that can incorporate a substitutable pricing technique (algorithm) into a business process like or similar to the one depicted in and discussed in regard to FIG. 1.



## The WASP Calculation

This particular section contains information on the calculation that occurs to price deals. In the context of the present invention, it is envisioned that there are three situations that can trigger a pricing calculation:

- 5           1.     The price calculation can be submitted at any time by individuals with appropriate security using the System online pricing screen (see FIGS. 4A-4Q). Only those production months in a 'Sales' (nomination recalculated) or 'Invoiced' (actual recalculated) status can be submitted through this screen;
- 10          2.     When the status for a production month goes from 'Sales' to 'Invoiced' a final nomination is performed. In addition, when the status of a production month goes from 'Invoiced' to 'Accounting' a final actuals calculation is performed. These production month status 'promotions' occur through the EMS online screens (by  
15 individuals with an appropriate level of security); and
- 20          3.     Each evening, for example, all production months that are in either the 'Sales' or 'Invoice' status will have a calculation cycle run for them. This calculation begins at approximately 8:00 CST, for example. This ensures that all variables (price index entries, volumes, routing instructions, etc.) that could influence the price of  
a given set of deals are recalculated and presented as current, the first thing in the morning.

25           The entire calculation process is comprised entirely of MS SQL-Server Transact-SQL stored procedures. The 'flow' of the calculation can be described with reference to the following six (6) stages:

### **Stage 1.     Sales Deal Calculations**

30           Calculate all sales deals first (all pools and deal classifications). This is done because knowing the sales prices (by pool) is required for the following purchase deal calculations.

**Stage 2      WASP Deal Preparation**

This particular stage simply prepares the WASPResolvedRouting table with initial sales pool total dollars and volumes. This is the primary table that is used when repeatedly (such as via iteration) tracing all volumes from the sales point back to originating purchase points.

**Stage 3      Purchase Deal 'None' Pool (3<sup>rd</sup> Party) Calculations**

All third party purchase deals (belonging to the 'None' (pool) are calculated first. The reason for this is because of the potential that some of these deals having Financial Overrides that are to be distributed to either a 'Common' WASP pool OR to a specific deal. By doing these calculations first, the profit gain or loss (for the financial overrides) can be determined and posted to the appropriate place in the WASPResolvedRouting table.

**Stage 4      Purchase Deal 'Dedicated' Pool (Sanctioned Sales) Calculations**

All sanctioned sales purchase deals are now calculated. The price for these purchases is driven based on a weighted average basis of the sales meters. Sanctioned sale purchase exist in their own pool ('Dedicated') so that no other purchases volumes (and sales of those volumes) will impact the price calculated. Netback percentages are applied.

**Stage 5      Purchase Deal 'Common' Pool (Equity) Calculations**

All equity deals are then calculated. The price for these purchases is driven based on a weighted average basis of the sales meters. All purchases that are classified as 'equity' will share in pricing and costing (weighted). The pricing is based on the 'common' body. Any given purchase deal classified as equity could potentially impact the price that other purchase deals (in the 'common' pool) calculates. Netback percentages are applied.

Variable	Mean	SD	Min	Max
Age	34.5	10.2	18	65
Gender	0.5	0.5	0	1
Marital status	0.6	0.5	0	1
Education	12.5	1.5	9	16
Income	1500	500	500	3000
Health status	0.8	0.2	0	1
Employment status	0.7	0.3	0	1
Family size	2.5	1.0	1	5
Home ownership	0.6	0.5	0	1
Vehicle ownership	0.4	0.5	0	1
Insurance coverage	0.9	0.1	0	1
Charitable giving	0.2	0.3	0	1
Volunteer work	0.3	0.4	0	1
Political participation	0.1	0.3	0	1
Religious attendance	0.5	0.5	0	1
Community involvement	0.4	0.4	0	1
Environmental concern	0.7	0.3	0	1
Healthcare usage	0.6	0.4	0	1
Food security	0.8	0.2	0	1
Energy usage	0.5	0.3	0	1
Waste management	0.6	0.4	0	1
Water conservation	0.7	0.3	0	1
Public safety	0.8	0.2	0	1
Crime rates	0.2	0.3	0	1
Law enforcement	0.6	0.4	0	1
Legal system	0.5	0.5	0	1
Government services	0.7	0.3	0	1
Infrastructure	0.6	0.4	0	1
Transportation	0.5	0.5	0	1
Communication	0.8	0.2	0	1
Education system	0.7	0.3	0	1
Healthcare system	0.6	0.4	0	1
Social services	0.5	0.5	0	1
Public housing	0.4	0.4	0	1
Food banks	0.3	0.3	0	1
Job training	0.2	0.2	0	1
Substance abuse	0.1	0.1	0	1
Mental health	0.2	0.2	0	1
Physical health	0.3	0.3	0	1
Disability	0.1	0.1	0	1
Elder care	0.2	0.2	0	1
Child care	0.3	0.3	0	1
Family support	0.4	0.4	0	1
Community support	0.5	0.5	0	1
Neighborhood support	0.6	0.4	0	1
Local government	0.7	0.3	0	1
State government	0.8	0.2	0	1
Federal government	0.9	0.1	0	1
International relations	0.5	0.5	0	1
Global issues	0.6	0.4	0	1
Human rights	0.7	0.3	0	1
Environmental issues	0.8	0.2	0	1
Climate change	0.9	0.1	0	1
Renewable energy	0.6	0.4	0	1
Art and culture	0.5	0.5	0	1
Sports and recreation	0.4	0.4	0	1
Media and entertainment	0.3	0.3	0	1
Technology	0.2	0.2	0	1
Innovation	0.1	0.1	0	1
Research and development	0.2	0.2	0	1
Science and technology	0.3	0.3	0	1
Space exploration	0.4	0.4	0	1
Artificial intelligence	0.5	0.5	0	1
Biotechnology	0.6	0.4	0	1
Medicine and health	0.7	0.3	0	1
Pharmaceuticals	0.8	0.2	0	1
Healthcare innovation	0.9	0.1	0	1
Education innovation	0.6	0.4	0	1
Work and productivity	0.5	0.5	0	1
Business and industry	0.4	0.4	0	1
Entrepreneurship	0.3	0.3	0	1
Small business	0.2	0.2	0	1
Large corporations	0.1	0.1	0	1
Global economy	0.2	0.2	0	1
Trade and commerce	0.3	0.3	0	1
International trade	0.4	0.4	0	1
Globalization	0.5	0.5	0	1
Globalization impact	0.6	0.4	0	1
Globalization challenges	0.7	0.3	0	1
Globalization opportunities	0.8	0.2	0	1
Globalization future	0.9	0.1	0	1
Globalization policy	0.6	0.4	0	1
Globalization regulation	0.7	0.3	0	1
Globalization reform	0.8	0.2	0	1
Globalization innovation	0.9	0.1	0	1

Each of the aforementioned stages of the calculation are invoked from a stored procedure called **usp\_PSPriceAutoMonth**. FIGS. 5A and 5B illustrate the process flows corresponding to these 'stages' and the flow of the stored procedures (discussed above) invoked during the calculation. The ordering of these procedures can be tied back to the stages just described above. Actual WASP calculation routines are listed below to aid the reader to completely understand the nature using a predetermined pricing technique in accordance with the present invention.

## 15

20

30

40

```

/*
*****
Name: usp_fGetIndex

5      Description: Get the most recent index value for a specified price index.

      Inputs:

10     GasMonthx - Gas month for lookup
      GasDayx - Preferable gas day used for lookup
      lx - Index id
      IndexValuexx - return index value

      History:

15     11/07/2000 JAMIE Modifications to convert from Watcom-SQL to
      Transact-SQL.

      *****

20     */
      BEGIN
      SELECT @IndexValuexx = 0
      /*
      *****
      * First get the maximum gas day that
      * has been entered for this index
      * id in this particular month.
      *****

25     */
      SELECT @GasDayX=(SELECT Max(GasDay) FROM GCIndex WHERE GasMonth=@GasMonthX AND GasDay<=@GasDayX AND
30     IndexID=@IX AND IndexVal<>0)
      /*
      *****
      * Now get the index value for that
      * day.
      *****

35     */
      SELECT @IndexValuexx = IndexVal FROM GCIndex WHERE GasMonth=@GasMonthX AND GasDay=@GasDayX AND IndexID=@IX
40     END

      GO
      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

45     SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

      CREATE PROCEDURE usp_fGetIndexBasket(
50         @GasMonthX DATETIME,
         @GasDayX DATETIME,
         @IndexBasketIDX VARCHAR(15),
         @IndexValuexx DECIMAL(19,6) OUTPUT
        )
55     AS
      BEGIN
      /*
      *****
      Name:      fGetIndexBasket

60     Description: This function will get the index basket amount for the specified
      month and date. This function will return a simple average of all the non zero
      components within the index for the month and day.

65     Inputs: GasMonthX (current gas month), GasDayX (day within month) and
      IndexBasketIDX (IndexBasket unique identifier).

      Outputs: Simple averaged price for the index basket.

70     History
    
```



```

5      GO
      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

10     SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

      CREATE PROCEDURE usp_fGetNetbackPercentage(
15         @PIDx INTEGER,
         @GasMonthx DATETIME,
         @TypeNetbackx VARCHAR(12),
         @WhichPricex INTEGER,
         @yNetbackPercentage DECIMAL(19,8) OUTPUT
20     )
      AS
      BEGIN
      /*
      *****
25     Name: usp_fGetNetbackPercentage

      Description: This function will return the netback percentage that should be applied
      to a particular deal, for a particular month. This netback percentage is based on the
      percentage setup at the contract level for the deal in question. These percentages
30     at the contract level (KNetback table) are tiered. There are two methods of deriving
      the percentage.

      Method 0 (All or nothing) - With this method the average daily volume for the month
      will be used to find the appropriate tier (also based on effective date). The netback
      percentage to use will be the FIRST tier setup on the contract whose average daily volume
35     does not exceed the total for the gas month on this package. All gas volume for the
      month will use this same percentage (all or nothing).

      Method 1 (Accumulating) - With this method the resulting end percentage that will be
      used is based on volumes within each tier (they are weighted based on their respective
40     volumes. The netback percentage that is calculated is based on the weighted average of
      all percentages, across all tiers using volumes that were applied.

      This particular function will work with Nomination (WhichPricex = 0) and Actual
      (WhichPricex = 1) volumes. In addition, this procedure can return both 'GAS' and/or
45     'OIL' (and or any other) netback (via the TypeNetbackx parameter).

      was sent as an input parameter. The WASP indicator is based on the combination of
      deal classifications that have been established for this deal. The default indicator
50     is 'N' (ie if classification information can't be found/etc.). All combinations of
      deal classifications should be setup.

      Inputs:

55     PIDx (package ID)
      GasMonthx (Gas Month)
      TypeNetbackx (type of netback percentage)
      WhichPricex (0=Nominations, 1=Actuals)

60     Outputs:

      A single percentage to be applied to the price, representing the netback.

      History:

65     05/13/99 JAMIE Original Creation.

      07/22/99 JAMIE Modified to check for a floor amount
      and return that amount if it is greater
70     than the calculated amount.

```

09/02/1999 JAMIE Modified to sum volumes either across DEAL, CONTRACT  
or COMPANY when determining the correct tier.

5 08/21/2000 JAMIE Modifications to only sum volumes within the same  
product (across entities and services).

11/08/2000 JAMIE Converted to Transact-SQL

```
10 *****
   */
   /*
   *****
15   * Declare all exceptions, cursors
   * and local variables that will be
   * utilized by this procedure.
   *****
   */
20   DECLARE @zRound INTEGER
   DECLARE @zEntityCID VARCHAR(12)
   DECLARE @zKProductID INTEGER
   DECLARE @zKServiceID INTEGER

25   DECLARE @tmpEndDate DATETIME
   DECLARE @tmpMaxEffective DATETIME
   DECLARE @tmpDaysInPeriod INTEGER
   DECLARE @tmpVolumeTotal DECIMAL(19,2)
   DECLARE @tmpAccumulatingTotal DECIMAL(19,2)
30   DECLARE @tmpPrevBand DECIMAL(19,2)
   DECLARE @tmpCurrBand DECIMAL(19,2)
   DECLARE @tmpBandTotal DECIMAL(19,2)
   DECLARE @tmpBandWeightPerc DECIMAL(19,8)
   DECLARE @tmpAccumulatingPrice DECIMAL(19,8)

35   DECLARE @yNetbackMethod INTEGER
   DECLARE @yNetbackTierLevel VARCHAR(10)
   DECLARE @yAveragePerDay DECIMAL(19,2)
   DECLARE @yDailyTotal DECIMAL(19,2)
40   DECLARE @yeffective DATETIME
   DECLARE @ymaxvollevel DECIMAL(19,2)
   DECLARE @ynetprice DECIMAL(19,8)
   DECLARE @ynetpricefloor DECIMAL(19,8)
   DECLARE @yKID INTEGER
   DECLARE @yCID VARCHAR(12)
45   /*
   *****
   * Get netback method information off the
   * contract. The default will be all or
50   * nothing (most common). However, this
   * should always be found on the contract.
   *
   * 0 = All or Nothing
   * 1 = Accumulating
   *
55   * Also, this area of the code sets the
   * default for the netback to zero.
   *
   * In addition, go and get the default
   * netback tier level off the contract
60   * in order to know at what level to
   * summarize the volumes when
   * performing the calculation. The
   * default is 'DEAL' if it can't be found
   * or if one is not specified.
65   *****
   */
   SELECT @yNetbackPercentage=0
   SELECT @yNetbackMethod=ISNULL((SELECT tier FROM K WHERE KID=(SELECT KID FROM package WHERE PKG=@PIDx)),0)
   SELECT @yNetbackTierLevel=ISNULL((SELECT NetbackTierLevel FROM K WHERE KID=(SELECT KID FROM package WHERE
70   PKG=@PIDx)), 'COMPANY')
```

```

SELECT @yKID=ISNULL((SELECT KID FROM package WHERE PKG=@PIDx),0)
SELECT @yCID=ISNULL((SELECT CID FROM package WHERE PKG=@PIDx),")
/*
*****
5  * Get the entity, product and service
  * information off the deal table. There
  * has to be a value on the deal (package)
  * table for each of these...
  *****
10 */
   SELECT @zEntityCID=ISNULL((SELECT K.EntityCID FROM Package,K WHERE PKG=@PIDx and K.KID=Package.KID,")
   SELECT @zKProductID=ISNULL((SELECT KProductID FROM Package WHERE PKG=@PIDx),0)
   SELECT @zKServiceID=ISNULL((SELECT KServiceID FROM Package WHERE PKG=@PIDx),0)
/*
15 *****
   * Now calculate the average volume of
   * gas per day that this particular
   * package has on the system. Remember to
   * use the WhichPrice parameter to determine
20 * which volume to get.
   * 0=(Nominated Volume)
   * 1=(pipeline actual volume)
   *****
   */
25 EXECUTE usp_fLastDay @GasMonthx,@tmpEndDate OUTPUT
   SELECT @tmpDaysInPeriod=(DATEDIFF(day,@GasMonthx,@tmpEndDate) + 1)
   IF @WhichPrice=0
       BEGIN
30             IF @yNetbackTierLevel='DEAL'
                   BEGIN
                           SELECT @tmpVolumeTotal=ISNULL((SELECT SUM(Nom) FROM GasInv WHERE
                           PKG=@PIDx),0)
                           END
                   IF @yNetbackTierLevel='CONTRACT'
35                           BEGIN
                                   SELECT @tmpVolumeTotal=ISNULL((SELECT SUM(GasInv.Nom) FROM GasInv,Package
                                   WHERE GasInv.GasMonth=@GasMonthx AND GasInv.DBCR=0 AND
                                   GasInv.PriceType=1 AND GasInv.KID=@yKID
                                   AND Package.PKG=GasInv.PKG AND
40                                   Package.KProductID=@zKProductID),0)
                                   END
                                   IF @yNetbackTierLevel='COMPANY'
45                                   BEGIN
                                           SELECT @tmpVolumeTotal=ISNULL((SELECT SUM(GasInv.Nom) FROM GasInv,Package
                                           WHERE GasInv.GasMonth=@GasMonthx AND GasInv.DBCR=0 AND
                                           GasInv.PriceType=1 AND GasInv.CID=@yCID
                                           AND Package.PKG=GasInv.PKG AND
50                                           Package.KProductID=@zKProductID),0)
                                           END
                                           END
                                           IF @WhichPrice=1
                                           BEGIN
95                                           IF @yNetbackTierLevel='DEAL'
                                       BEGIN
                                               SELECT @tmpVolumeTotal=ISNULL((SELECT SUM(PipelineActuals) FROM GasInv WHERE
                                               PKG=@PIDx),0)
                                               END
                                       IF @yNetbackTierLevel='CONTRACT'
60                                               BEGIN
                                   SELECT @tmpVolumeTotal=ISNULL((SELECT SUM(GasInv.PipelineActuals) FROM
                                   GasInv,Package
                                   WHERE GasInv.GasMonth=@GasMonthx AND GasInv.DBCR=0 AND
                                   GasInv.PriceType=1 AND GasInv.KID=@yKID
                                   AND Package.PKG=GasInv.PKG AND
65                                   Package.KProductID=@zKProductID),0)
                                   END
                                   IF @yNetbackTierLevel='COMPANY'
                                       BEGIN

```



```

SELECT @tmpVolumeTotal=ISNULL((SELECT SUM(GasInv.PipelineActuals) FROM
GasInv,Package
WHERE GasInv.GasMonth=@GasMonthx AND GasInv.DBCR=0 AND
GasInv.PriceType=1 AND GasInv.CID=@yCID
AND Package.PKG=GasInv.PKG AND
Package.KProductID=@zKProductID),0)
END
5
IF (@tmpVolumeTotal=0) OR (@tmpDaysInPeriod<1)
BEGIN
10
    SELECT @yAveragePerDay=0
END
ELSE
BEGIN
15
    EXECUTE usp_GetProductVolumeRound @PIDx,@zRound OUTPUT
    SELECT @yAveragePerDay=ROUND(@tmpVolumeTotal/@tmpDaysInPeriod,@zRound)
END
/*
*****
20
* Determine which effective date of rules
* should be used. This will be the max
* effective date where the effective date
* is either in or prior to the end of the
* current gas month. Only the set of rules
25
* associated with the most recent effective
* date will be used. If a date cannot be
* found then this function will return
* a zero percentage (ie. one isn't on
* the system that precedes the gas
30
* month).
*****
*/
SELECT @tmpMaxEffective=(SELECT MAX(effective) FROM knetback WHERE KID=(SELECT KID FROM package WHERE PKG=@PIDx)
AND (effective<=@tmpEndDate) AND NetBackType=@TypeNetbackx)
35
IF @tmpMaxEffective IS NULL
BEGIN
    SELECT @tmpMaxEffective='01-01-1900'
END
/*
*****
40
* If method 0 (all or nothing) then go
* and get the single tier percentage.
* The tier record will loop through and
* take the first tier record where the
45
* volume is greater than or equal then
* the average volume per day.
* This is the all or nothing netback
* pricing tier logic.
*****
50
*/
IF @yNetbackMethod=0
BEGIN
    SELECT @yDailyTotal=@yAveragePerDay
END
55
ELSE
BEGIN
    SELECT @yDailyTotal=0
END
/*
*****
60
* Initialize any fields that may be
* needed during the loop process.
*****
*/
65
SELECT @tmpAccumulatingTotal=@yAveragePerDay
SELECT @tmpPrevBand=0
SELECT @tmpAccumulatingPrice=0
/*
*****
70
* Now loop through all of the netback

```

\* price records attached to the contract.

\*\*\*\*\*

\*/

```

5  DECLARE NetbackCursor CURSOR LOCAL FORWARD_ONLY STATIC FOR
    SELECT
        effective,
        maxvollevel,
        netprice
10  FROM
        kNetBack
    WHERE
        (KID=(SELECT KID FROM Package WHERE PKG=@PIDx)) AND
        (effective=@tmpMaxEffective) AND
        (maxvollevel>=@yDailyTotal) AND
15  (NetbackType=@TypeNetbackx)
    ORDER BY
        maxvollevel asc
OPEN NetbackCursor
20  FETCH NEXT FROM NetbackCursor INTO @yEffective,@ymaxvollevel,@ynetprice
    WHILE @@FETCH_STATUS = 0
        BEGIN
            IF @yNetbackMethod=0
                BEGIN
25  IF @yNetbackPercentage=0
                    BEGIN
                        SELECT @yNetbackPercentage=ROUND(@ynetprice,4)
                    END
                END
30  /*
        *****
        * If method 1 (accumulating) then go
        * through and weight each tier to derive
        * a percentage. We know the total volume
        * for the month each tier will provide us
        * with the weighting information we need.
        *****
        */
40  IF @yNetbackMethod=1
            BEGIN
                IF @tmpAccumulatingTotal>0
                    BEGIN
                        SELECT @tmpCurrBand=(@ymaxvollevel-@tmpPrevBand)
                        IF @tmpCurrBand<=@tmpAccumulatingTotal
                            BEGIN
45  SELECT @tmpBandTotal=@tmpCurrBand
                                SELECT
                                    @tmpAccumulatingTotal=(@tmpAccumulatingTotal-@tmpCurrBand)
                                END
50  ELSE
                                    BEGIN
                                        SELECT @tmpBandTotal=@tmpAccumulatingTotal
                                        SELECT @tmpAccumulatingTotal=0
55  END
                                        SELECT @tmpBandWeightPerc=@tmpBandTotal
                                        SELECT @tmpBandWeightPerc=@tmpBandWeightPerc/@yAveragePerDay
                                        SELECT
70  @tmpAccumulatingPrice=@tmpAccumulatingPrice+ROUND((@ynetprice*@tmpBandWeightPerc),4)
                                            END
                                                SELECT @tmpPrevBand=@ymaxvollevel
                                            END
                                        FETCH NEXT FROM NetbackCursor INTO @yEffective,@ymaxvollevel,@ynetprice
                                    END
                                CLOSE NetbackCursor
                                DEALLOCATE NetbackCursor
                            /*
                                *****
                                * Get the last accumulating price here
                                * and use this price...
                                *****

```

```

*/
IF @yNetbackMethod=1
    BEGIN
        SELECT @yNetbackPercentage=@tmpAccumulatingPrice
    END
5
END

/*
*****
10
* At this point a calculated netback
* percentage has been derived. Now
* check to see if the calculated netback
* percentage is less than the 'floor'
* amount setup on the contract. If so,
15
* then use the floor amount.
*****
*/
SELECT @ynetpricefloor=ISNULL((SELECT NetPriceFloor FROM K WHERE KID=(SELECT KID FROM Package WHERE PKG=@PIDx)),0)
IF @ynetpricefloor<>0
20
    BEGIN
        IF @ynetpricefloor>@yNetbackPercentage
            BEGIN
                SELECT @yNetbackPercentage=@ynetpricefloor
            END
        END
25
    END
END

30

35
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
40
SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
GO
CREATE PROCEDURE usp_fGetWASPIndicator(
45
    @PIDx INTEGER,
    @yWaspiIndicator VARCHAR(10) OUTPUT
)
AS
BEGIN
50
/*
*****
Name: usp_fGetWaspiIndicator

55
Description: This function will return the WASP indicator for the package ID that
was sent as an input parameter. The WASP indicator is based on the combination of
deal classifications that have been established for this deal. The default indicator
is 'None' (ie if classification information can't be found/etc.). All combinations of
deal classifications should be setup.

60
Inputs: PIDx (package ID).

Outputs: A 'Comon' or 'Dedicated' or 'None' indicator which specifies whether
or not this package is considered 'WASP'able.

65
History:

05/12/1999 JAMIE Original Creation.

08/03/1999 JAMIE Modification to use the deal classification indicators
70
off of the package table versus the dealclass table.

```

```

*****
*/
/*
5  *****
   * Declare all exceptions, cursors
   * and local variables that will be
   * utilized by this procedure.
   *****
10 */
   DECLARE @yDealContextID INTEGER
   DECLARE @yDealTypeID INTEGER
   DECLARE @yDealVolumeVolID INTEGER
   DECLARE @yDealPricePeriodID INTEGER
15  DECLARE @yDealInterruptibleID INTEGER
   /*
   *****
   * Populate the various deal classification
   * identifiers based on the information
20  * stored on the package table.
   *****
   */
   SELECT
25         @yDealContextID = PackageDBCR,
           @yDealTypeID = DealTypedclD,
           @yDealVolumeVolID = VolumeVolatilitydclD,
           @yDealPricePeriodID = PricePerioddclD,
           @yDealInterruptibleID = InterruptibleclD
   FROM
30         Package
   WHERE
           PKG=@PIDx
   /*
   *****
35  * Now go and get the WASP indicator for
   * this particular deal.
   *****
   */
40  SELECT @yWasIndicator=ISNULL((SELECT IncludeInWasp FROM rDealClassRules
                                WHERE
45                                     DealContext=@yDealContextID AND
                                     DealTypedclD=@yDealTypeID AND
                                     VolumeVolatilitydclD=@yDealVolumeVolID AND
                                     PricePerioddclD=@yDealPricePeriodID AND
                                     InterruptibleclD=@yDealInterruptibleID),'None')
   END

50  GO
   SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
   GO

   SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
   GO
55  CREATE PROCEDURE usp_fGetWaspType(
                                @PIDx INTEGER,
                                @yWaspType VARCHAR(12) OUTPUT
60  )
   AS
   BEGIN
   /*
   *****
65  Name: usp_fGetWaspType

   Description: This function will return the WASP type field to use for the
   specific package (deal) that is being looked at. This type is based on the
   product id setup for the deal.
70

```

```

Inputs:

PIDx (package ID).

5      Outputs:

      yWaspType - 'OIL','LIQUIDS', OR 'GAS'.

10     History:

      12/03/2000 JAMIE Original Creation.

      *****
      */
15     /*
      *****
      * Declare all exceptions, cursors
      * and local variables that will be
      * utilized by this procedure.
      *****
20     */
      DECLARE @yDealProduct VARCHAR(50)
      DECLARE @yDealProductID INTEGER
      /*
25     *****
      * Initialize the return value to be GAS
      *****
      */
30     SELECT @yWaspType='GAS'
      /*
      *****
      * Get the contrat ID off the deal
      * (package) table.
      *****
35     */
      SELECT @yDealProductID = ISNULL((SELECT KProductID FROM package where PKG=@PIDx),0)
      /*
      *****
40     * If a contract ID was found then
      * based on the value then convert
      * the netback type.
      *****
      */
45     IF @yDealProductID <> 0
          BEGIN
              SELECT @yDealProduct = ISNULL((SELECT shortdescription FROM SEProcessingCodes WHERE processingcodeid=
              @yDealProductID),'Gas')
              IF @yDealProduct = 'Gas'
                  BEGIN
50                      SELECT @yWaspType='GAS'
                  END
              IF @yDealProduct = 'Oil'
                  BEGIN
55                      SELECT @yWaspType='OIL'
                  END
              IF @yDealProduct = 'Liquids'
                  BEGIN
60                      SELECT @yWaspType='LIQUIDS'
                  END
          END
65     END

      GO
      SET QUOTED_IDENTIFIER OFF  SET ANSI_NULLS ON
      GO
70

```

```

SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
GO

5  CREATE PROCEDURE usp_flsLastDay(
                                @DT DATETIME
                                )
    AS
    BEGIN
10  DECLARE @LDx DATETIME
    DECLARE @a INTEGER
    EXECUTE usp_fLastDay @DT,@LDx OUTPUT
    IF @LDx=@DT
        BEGIN
15          SELECT @a=1
        END
    ELSE
        BEGIN
            SELECT @a=0
        END
20  RETURN(@a)
    END

    GO
25  SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

    SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
    GO
30  CREATE PROCEDURE usp_flasday(
                                @lastdate DATETIME,
                                @ldx DATETIME OUTPUT
                                )
    AS
    BEGIN
35  /*
    *****
    * Initially, just set the return value to be
    * equal to the date coming in.
    *****
    */
40  SELECT @ldx=@lastdate
    /*
    *****
    * Now, loop thru adding 1 day to the date
    * while the month is still equal.
    *****
    */
50  WHILE MONTH(@ldx)=MONTH(@lastdate)
        BEGIN
            SELECT @ldx=DATEADD(DAY,1,@ldx)
        END
    /*
55  *****
    * Since the loop would have finished with
    * the date being 1 day greater than the
    * last day of the month, then back it off
    * one day here to get the true end of
    * month value...
    *****
    */
60  SELECT @ldx=DATEADD(DAY,-1,@ldx);
    END
65

    GO
70  SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON

```

```

GO

SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
GO
5  CREATE PROCEDURE usp_GasDayToGasMonth(
                                @GasDayX DATETIME,
                                @GasMonthX DATETIME OUTPUT
                                )
10  AS
    BEGIN
        /*
        *****
        * Initially, just set the return value to be
        * equal to the date coming in.
        *****
        */
        SELECT @GasMonthX=@GasDayX
        /*
        *****
        * Now, loop thru subtracting 1 day to the
        * date while the month is still equal.
        *****
        */
        WHILE MONTH(@GasMonthX)=MONTH(@GasDayX)
            BEGIN
                SELECT @GasMonthX=DATEADD(DAY,-1,@GasMonthX)
            END
        /*
        *****
        * Since the loop would have finished with
        * the date being 1 day less than the
        * first day of the month, then bump it up
        * one day here to get the true beginning of
        * month value...
        *****
        */
        SELECT @GasMonthX=DATEADD(DAY,1,@GasMonthX)
        END
30
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
45  SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
GO

CREATE PROCEDURE usp_GetProductVolumeRound(
                                @PKGx INTEGER,
                                @RoundNumber INTEGER OUTPUT
                                )
50  AS
    /*
    *****
    Name: usp_GetProductRound

    Description: Get the value used to round volumes to based on the information
    in the processing codes table (typelimit field).
    60
    Inputs:

    RoundNumber - Number of digits to round calculations too.

    65
    Outputs:

    None

    History:
    70

```

11/23/2000 JAMIE Original creation.

\*\*\*\*\*

\*/

5

BEGIN

DECLARE @zRoundNumber INTEGER

SELECT @zRoundNumber = ISNULL((SELECT SP.TypeLimit FROM SEProcessingCodes AS SP, Package WHERE SP.ProcessingCodeID =  
Package.KProductID AND Package.PKG=@PKGx),0);

10

SELECT @RoundNumber = @zRoundNumber  
END

15

GO

SET QUOTED\_IDENTIFIER OFF SET ANSI\_NULLS ON

GO

20

SET QUOTED\_IDENTIFIER OFF SET ANSI\_NULLS ON  
GO

CREATE PROCEDURE usp\_LinePrice(

25

@nETID INTEGER,  
@nNomOrAct INTEGER  
)

AS

BEGIN

/\*

30

\*\*\*\*\*

Name: usp\_LinePrice

35

Description: This procedure will calculate the line price for a specific Engine  
record. The input parameter nETID represents a unique key to a specific Engine  
record. In addition, the nNomOrAct parameter specifies whether or not to post the  
price line information to the nomination area or the actual area of the engine  
record. The volgroup field on the engine record contains the unique package (deal)  
id. This is used in the link to get the actual price components for the package.

40

Inputs:

nETID = Engine Key

nNomOrAct = (0=Nomination,1=Actualization)

45

Outputs:

Either an updated PriceOrRateNom or PriceOrRateAct field on the Engine record.

The precise field updated depends on the input parameter sent to this process (nNomOrAct).

50

History:

xx/xx/xx (?) CHIP Original Creation.

55

04/29/99 JAMIE Modified for WASP 2.10 Release. Structure changes  
made to the Engine and Engine\_Master tables. In  
addition, all documentation added. This particular  
portion of the system required extensive changes  
due to the need to store a nom and actual number  
and because all price components are now stored  
off the Engine\_MasterPrice table (STID's 8 and 9).

60

06/22/2000 JAMIE Modified to pull in the entity, product and service  
in order to get the correct price off the wasp table (values are passed  
to the wasp routine).

65

11/10/2000 JAMIE Converted to Transact-SQL

\*\*\*\*\*

\*/

70

/\*



```

*****
* Declare all exceptions, cursors
* and local variables that will be
* utilized by this procedure.
*****
5 */
  DECLARE @xEngine_Effective DATETIME
  DECLARE @xETID INTEGER
  DECLARE @xSequenceNo INTEGER
10  DECLARE @xPriceTag VARCHAR(20)
  DECLARE @xOperandVariable VARCHAR(1)
  DECLARE @xPriceVariable VARCHAR(15)
  DECLARE @xPriceEntryType VARCHAR(12)
  DECLARE @xEffective DATETIME
15  DECLARE @xTID INTEGER
  DECLARE @xEntityCID VARCHAR(12)
  DECLARE @xKProductID INTEGER
  DECLARE @xKServiceID INTEGER
  DECLARE @yPrice DECIMAL(19,6)
20  DECLARE @yPriceInterimValue DECIMAL(19,6)
  DECLARE @yMonthDate DATETIME
  DECLARE @zTemp DECIMAL(19,6)

  DECLARE Engine_MasterPriceAll CURSOR LOCAL FORWARD_ONLY STATIC FOR
25      SELECT DISTINCT
          emp.ETID,
          emp.SequenceNo,
          emp.PriceTag,
          emp.OperandVariable,
30      emp.PriceVariable,
          pc.PriceEntryType,
          em.Effective,
          e.TID,
          k.entitycid,
          package.KProductID,
          package.KServiceID
35      FROM
          engine_masterprice AS emp,
          engine AS e,
          engine_master AS em,
          pricecomponents AS pc,
          gasinv,
          k,
          package
40      WHERE
          (e.ETID=@nETID) AND
          (em.ETID=e.EM_ETID) AND
          (emp.ETID=em.ETID) AND
          (gasinv.tid=e.tid) AND
          (k.kid=gasinv.kid) AND
          (package.pkg=gasinv.pkg) AND
          (pc.PriceTag=emp.PriceTag) AND
          (emp.NomOrActual=@nNomOrAct)
45      ORDER BY
          emp.ETID,
          emp.SequenceNo
55
/*
*****
* Initialize all fields here...
*****
60 */
  SELECT @yPrice=0
  SELECT @yPriceInterimValue=0
/*
65 *****
* Open the cursor to get the pricing
* information and loop through all of
* the price component records. The end
* result price will ultimately be
70 * updated on the engine record.

```

```

*****
*/
OPEN Engine_MasterPriceAll
FETCH NEXT FROM Engine_MasterPriceAll INTO
5  @xETID,@xSequenceNo,@xPriceTag,@xOperandVariable,@xPriceVariable,@xPriceEntryType,
   @xEffective,@xTID,@xEntityCID,@xKProductID,@xKServiceID
WHILE @@FETCH_STATUS = 0
  BEGIN
10    /*
    *****
    * Derive the gas month based on the
    * effective from the engine
    * record.
    *****
15    */
    SELECT @xEngine_Effective=(SELECT effective FROM engine WHERE ETID=@nETID)
    EXECUTE usp_GasDayToGasMonth @xEngine_Effective,@yMonthDate OUTPUT
    /*
    *****
20    * Convert the price variable portion to a
    * number. If an index then get the index
    * amounts. The default price for any
    * component not in this case statement is
    * zero (ie.. WASP, UNKNOWN, etc.).
    *****
25    */
    SELECT @yPriceInterimValue = 0
    IF @xPriceEntryType='Numeric'
      BEGIN
30        SELECT @yPriceInterimValue=CAST(@xPriceVariable AS DECIMAL(19,6))
      END
    IF @xPriceEntryType='Monthly IDX'
      BEGIN
35        EXECUTE usp_fGetIndex @yMonthDate,@yMonthDate,@xPriceVariable,@yPriceInterimValue
      END
    IF @xPriceEntryType='Daily IDX'
      BEGIN
40        EXECUTE usp_fGetIndex
        @yMonthDate,@xEngine_Effective,@xPriceVariable,@yPriceInterimValue OUTPUT
      END
    IF @xPriceEntryType='Basket IDX'
      BEGIN
45        EXECUTE usp_fGetIndexBasket
        @yMonthDate,@xEngine_Effective,@xPriceVariable,@yPriceInterimValue OUTPUT
      END
    IF @xPriceEntryType='Wasp'
      BEGIN
50        EXECUTE usp_fGetCalcIndex
        @xTID,@nNomOrAct,@xEntityCID,@xKProductID,@xKServiceID,@yMonthDate,@yPriceInterimValue OUTPUT
      END
    IF @yPriceInterimValue IS NULL
      BEGIN
55        SELECT @yPriceInterimValue = 0
      END
    /*
    *****
    * At this point the yPriceInterim Value
    * contains the individual price component
    * amount. Now, depending on the operator,
    * apply this to the current total
    * (yPrice). The end result is yPrice
    * being updated with this component amount.
    *****
60    */
    IF @xOperandVariable='+'
      BEGIN
65        SELECT @yPrice=@yPrice+@yPriceInterimValue
      END
    IF @xOperandVariable='-'
70

```

```

        BEGIN
        SELECT @yPrice=@yPrice-@yPriceInterimValue
        END
        IF @xOperandVariable='*'
5         BEGIN
            SELECT @yPrice=@yPrice*@yPriceInterimValue
        END
        IF @xOperandVariable='/'
10        BEGIN
            IF (@yPrice<>0) AND (@yPriceInterimValue<>0)
                BEGIN
                    SELECT @yPrice=@yPrice/@yPriceInterimValue
                END
            END
        END
15        FETCH NEXT FROM Engine_MasterPriceAll INTO
        @xETID,@xSequenceNo,@xPriceTag,@xOperandVariable,@xPriceVariable,@xPriceEntryType,
        @xEffctive,@xTID,@xEntityCID,@xKProductID,@xKServiceID
        END
20        CLOSE Engine_MasterPriceAll
        DEALLOCATE Engine_MasterPriceAll
        /*
        *****
        * Finally, take the results of the price
        * components and update the engine record
        * with the price.
        *
        * If nom calculation then update then
        * nom price. If actual calculation then
        * update the actualized price.
        *
30        *****
        */
        IF @nNomOrAct=0
            BEGIN
35                UPDATE
                    Engine
                SET
                    PriceOrRateNom=@yPrice
                WHERE
40                    ETID=@nETID
            END
        IF @nNomOrAct=1
            BEGIN
45                UPDATE
                    Engine
                SET
                    PriceOrRateAct=@yPrice
                WHERE
50                    ETID=@nETID
            END
        END
        END

55
        GO
        SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
        GO
        60
        SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
        GO
        65        CREATE PROCEDURE usp_message(
            @messagex VARCHAR(255)
        )
        AS
        /*
        *****
70        Name: usp_message
    
```

Description: This routine will dictate where and how messages from the system will (or will not) be posted. These are transitory messages generated by the system (like during a calculation).

5

Inputs:

messagex - Text message to write

10

Outputs:

None

15

History:

11/07/2000 JAMIE Original creation.

20

```
*****  
*/  
BEGIN  
DECLARE @tmpMessage VARCHAR(254)  
/*  
INSERT INTO ApplicationMessages (ApplicationMessageText) VALUES (@messagex)  
25  
PRINT @messagex  
*/  
  
SELECT @tmpMessage = @messagex  
30  
END
```

35

40

45

```
GO  
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON  
GO
```

50

```
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON  
GO
```

55

```
CREATE PROCEDURE usp_PSPPrice(  
    @PIDx INTEGER,  
    @WhichPricex INTEGER,  
    @GasMonthx DATETIME,  
    @DBCRx INTEGER  
)
```

60

```
AS  
BEGIN  
/*  
*****
```

65

Name: usp\_PSPPrice

Description: Price all of the gas inventory items.

History:

70

xx/xx/xx (?) CHIP Original Creation.



```

EXECUTE usp_GetProductVolumeRound @PIDx,@zRound OUTPUT
OPEN GasInventoryCursor
FETCH NEXT FROM GasInventoryCursor INTO @yTID,@yActualizedFlag
WHILE @@FETCH_STATUS = 0
5      BEGIN
          DECLARE EngineCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
          SELECT
          DISTINCT
          e.ETID,
          e.Effective,
          e.STID,
          e.TID
          FROM
          Engine AS e,
          Engine_Master AS em
          WHERE
          (em.ETID=e.EM_ETID) AND
          (em.PID=e.VolGroup) AND
          (e.TID=@yTID)
          ORDER BY
          e.ETID
          OPEN EngineCursor
          FETCH NEXT FROM EngineCursor INTO @yETID,@yEffective,@ySTID,@yTID
          WHILE @@FETCH_STATUS = 0
          BEGIN
              /*
              *****
              * Calculate and update the engine with the
              * the actual price from the engine_master
              * via call to the following function.
              *****
              */
              EXECUTE usp_LinePrice @yETID,@WhichPricex
              /*
              *****
              * Determine the volume total to be applied
              * to this price line here. This represents
              * the sum of the volume between the
              * effective date and the end of the
              * month OR the next price effective
              * date for this item. The value of
              * tmpNumberDays contains the number of
              * days to apply the price and volumes
              * toward within the calculation.
              *****
              */
              EXECUTE usp_fLastDay @GasMonthx,@tmpEndDate OUTPUT
              SELECT @tmpNextEffectiveDate=(SELECT MIN(effective)-1 FROM engine AS e WHERE
              (e.TID=@yTID) AND (e.STID=@ySTID) AND (e.Effective>@yEffective))
              IF @tmpNextEffectiveDate IS NULL
              BEGIN
                  SELECT @tmpNextEffectiveDate=@tmpEndDate
              END
              IF @tmpNextEffectiveDate<@tmpEndDate
              BEGIN
                  SELECT @tmpDateToUse=@tmpNextEffectiveDate
              END
              ELSE
              BEGIN
                  SELECT @tmpDateToUse=@tmpEndDate
              END
              SELECT @tmpNumberDays=DATEDIFF(day,@yEffective,@tmpDateToUse) + 1
              IF @WhichPricex=0
              BEGIN
                  SELECT @tmpVolumeInPeriod=ISNULL((SELECT SUM(Nom) FROM
                  GasInvD WHERE (GasInvD.TID=@yTID)
                  AND
                  (GasInvD.GasDay BETWEEN @yEffective AND @tmpDateToUse)),0)
              END
              IF @WhichPricex=1

```



```

BEGIN
/*
*****
5  Name: usp_PSPPriceAll

Description:

Loop through all packages (deals) involved within a given month (purchase
10 or sale) and invoke the price procedures.

Inputs:

GasMonthx (Gas Month to price),
DebitCreditx (0=Debit (Purchases) - 1=Credit (Sales)),
15 WhichPricex (0=Nominations, 1=Actualizations)
PKGx (0=all otherwise specific package ID)
EntityCIDx (owning company entity id)
IncludeInWASPx (" for all, otherwise check for 'Common','Dedicated', or 'None')

20 History:

05/13/99 JAMIE This entire process was rewritten with V2.10 of
the Gas Control System. Package driven now
instead of individual inventory item driven.

25 07/22/99 JAMIE Include 3rd party deals within the
calculation process. They WILL NOT BE included within the WASP calculations
and will be treated the same as "Dedicated" (sanctioned sales) deals. This
will ensure they are not affecting any other pricing component.

30 05/24/2000 JAMIE Modified to include the changes to calculate based on company
entity ID (passed to this calculation). This ensures that WASP calculations/etc
are all within their respective companies... The deal cursor (PackageCursor)
will now only select those items where the entity ID for the contract on the deal
35 matches the one passed to this routine.

07/26/2000 JAMIE Modified to include the IncludeInWasp parameter to
this particular procedure. This will allow certain types of deals to
be priced independently of other types (ie.. do 3rd party first in order
40 to divide the proceeds either to a pool OR to another deal).

*****
*/
/*
45 *****
* Declare all variables and cursors
* that are needed by this process.
*****

*/
50 DECLARE @zTypeText VARCHAR(10)
DECLARE @zMessage VARCHAR(255)

DECLARE @yPKG INTEGER
55 DECLARE @yIncludeInWasp VARCHAR(10)

DECLARE PackageCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
DISTINCT
60 GasInv.PKG
FROM
GasInv,
Package,
K
WHERE
65 Package.PKG=GasInv.PKG AND
K.KID=Package.KID AND
K.EntityCID=@EntityCIDx AND
GasInv.GasMonth=@GasMonthx AND
GasInv.DBCR=@DebitCreditx AND
70 GasInv.PriceType=1

```



```

ORDER BY
GasInv.PKG

/*
*****
5  * Initialize any fields required.
*****
*/
IF @DebitCreditx=0
10 BEGIN
SELECT @zTypeText='Purchase'
END
IF @DebitCreditx=1
15 BEGIN
SELECT @zTypeText='Sale'
END
/*
*****
20 * Loop through each package
* involved in this calculation. As each
* deal is fetched get its WASP indicator
* information in order to determine if
* it can be involved in this process.
*****
*/
25 OPEN PackageCursor
FETCH NEXT FROM PackageCursor INTO @yPKG
WHILE @@FETCH_STATUS = 0
BEGIN
30 BEGIN TRANSACTION
EXECUTE usp_fGetWASPIndicator @yPKG,@yIncludeInWasp OUTPUT
IF (@PKGx=0) OR ((@PKGx<>0) AND (@PKGx=@yPKG))
BEGIN
IF (@IncludeInWaspx="") OR (@IncludeInWaspx=@yIncludeInWasp)
35 BEGIN
SELECT @zMessage = 'PSPriceAll Running for Entity
'+@EntityCIDx+' and type '+@zTypeText+', Package:'+' '+CONVERT(VARCHAR(10),@yPKG)+'...'
EXECUTE usp_message @zMessage
/*
*****
40 * Reset the financial override dollar
* amount to zeros at the beginning of the
* calculate for the deal...
*****
*/
45 IF @WhichPricex=0
BEGIN
UPDATE
50 package
SET
FinancialNomAmount=0
WHERE
55 PKG=@yPKG
END
IF @WhichPricex=1
BEGIN
UPDATE
60 package
SET
FinancialActAmount=0
WHERE
65 PKG=@yPKG
END
/*
*****
70 * Create any system generated pricing
* components for this package... These

```

```

5
    * pricing components are tightly related
    * to the Engine_Master. This is needed
    * to be done prior to populating the
    * Engine with pricing information.
    *****
    */
    EXECUTE usp_PSPPriceComponentsCheck

10
    @yPKG,@WhichPricex,@GasMonthx,@DebitCreditx

    /*
    *****
    * Now create all engine items for all
    * Engine_Master records. This is where
    * the engine will be populated with entries
    * based on information stored in the
    * Engine_Master. Included is the daily
    * index price 'proliferation' routine.
    *****
    */
    EXECUTE usp_PSPPricePopulateEngine

15
    @yPKG,@WhichPricex,@GasMonthx,@DebitCreditx

    /*
    *****
    * Finally, now go and price the actual
    * engine entries that were created in the
    * previous step...
    *****
    */
    EXECUTE usp_PSPPrice

20
    @yPKG,@WhichPricex,@GasMonthx,@DebitCreditx
    END
    COMMIT WORK
    FETCH NEXT FROM PackageCursor INTO @yPKG

25
    END
    CLOSE PackageCursor
    DEALLOCATE PackageCursor
    END

30
    GO
    SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

35
    SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

40
    CREATE PROCEDURE usp_PSPPriceAnyNewInvoicesNeeded(
        @GasMonthx DATETIME,
        @EntityCIDx VARCHAR(12)
    )
    AS
    BEGIN
    /*
    *****
    Name: usp_PSPPriceAnyNewInvoicesNeeded

    Description:

    This routine gets executed once a gas month has been put
    in an 'Invoiced' status. It will automatically go out and assign and invoice
    number where one previously did not exist (could use the same invoice
    number as an existing).

    Inputs:

```

GasMonthx - Gas month being calculated  
EntityCIDx - owning company

History:

12/15/1999 JAMIE Original creation

12/21/1999 JAMIE Modify to put the monthly alphabetic code as the first field of the invoice number to eliminate OGSYS clipping of a leading zero.

05/24/2000 JAMIE Modified to only create the invoices within the given owning company. The invoice numbers will need to be unique within the entire system.

\*\*\*\*\*

\*/

/\*

\*\*\*\*\*

\* Declare all variables and cursors

\* that are needed by this process.

\*\*\*\*\*

\*/

DECLARE @yTID INTEGER

DECLARE @yCID VARCHAR(12)

DECLARE @yPipe VARCHAR(12)

DECLARE @zAcctgIdentifier VARCHAR(12)

DECLARE @zYear INTEGER

DECLARE @zYearString VARCHAR(1)

DECLARE @zMonth INTEGER

DECLARE @zMonthString VARCHAR(1)

DECLARE @zNumToUse INTEGER

DECLARE @zNumToUseLength INTEGER

DECLARE @zNumToUseString VARCHAR(3)

DECLARE @zNumToUseZeros VARCHAR(3)

DECLARE @zMaxAcctgIdentifier VARCHAR(12)

DECLARE @zWorkString VARCHAR(12)

DECLARE GasInvCursor CURSOR LOCAL STATIC FORWARD\_ONLY FOR  
SELECT

GasInv.TID,  
GasInv.CID,  
GasInv.PipeField  
FROM

GasInv,  
Package,  
K

WHERE

GasInv.GasMonth=@GasMonthx AND  
GasInv.PriceType=1 AND  
GasInv.DBCR=1 AND  
(AcctgIdentifier IS NULL OR AcctgIdentifier='') AND  
Package.PKG=GasInv.PKG AND  
K.KID=Package.KID AND  
K.EntityCID=@EntityCIDx

ORDER BY

GasInv.CID,  
GasInv.PipeField

/\*

\*\*\*\*\*

\* Determine the prefix to use for the  
\* creation of the invoice numbers. If more  
\* than 10 years then these numbers begin  
\* to be reused.

\* This routine is CHEAP but it should  
\* suffice.

\*\*\*\*\*

\*/

SELECT @zYear=YEAR(@GasMonthx)

SELECT @zYearString=RIGHT(CONVERT(VARCHAR(4),@zYear),1)

SELECT @zMonth=MONTH(@GasMonthx)

```

IF @zMonth=1
    BEGIN
        SELECT @zMonthString='A'
    END
5  IF @zMonth=2
    BEGIN
        SELECT @zMonthString='B'
    END
10 IF @zMonth=3
    BEGIN
        SELECT @zMonthString='C'
    END
    IF @zMonth=4
        BEGIN
            SELECT @zMonthString='D'
        END
15 IF @zMonth=5
    BEGIN
        SELECT @zMonthString='E'
    END
20 IF @zMonth=6
    BEGIN
        SELECT @zMonthString='F'
    END
25 IF @zMonth=7
    BEGIN
        SELECT @zMonthString='G'
    END
30 IF @zMonth=8
    BEGIN
        SELECT @zMonthString='H'
    END
    IF @zMonth=9
        BEGIN
            SELECT @zMonthString='I'
        END
35 IF @zMonth=10
    BEGIN
        SELECT @zMonthString='J'
    END
40 IF @zMonth=11
    BEGIN
        SELECT @zMonthString='K'
    END
45 IF @zMonth=12
    BEGIN
        SELECT @zMonthString='L'
    END
    END

/*
*****
* Find the starting point to begin
* assigning new invoices from just
* in case some numbers need to be
* assigned.
*****
55 */
SELECT @zNumToUse=0
SELECT @zMaxAcctgIdentifier=(SELECT max(AcctgIdentifier) FROM GasInv WHERE GasMonth=@GasMonthx AND DBCR=1 AND
PriceType=1)
60 IF LEN(@zMaxAcctgIdentifier) = 6
    BEGIN
        SELECT @zWorkString=RIGHT(@zMaxAcctgIdentifier,4)
        SELECT @zWorkString=LEFT(@zWorkString,3)
        SELECT @zNumToUse=CONVERT(INTEGER,@zWorkString)
65    END

/*
*****
* Now go get the records that do not
* yet have a invoice number assigned
* to them (ie. execute the cursor).
70

```

```

*****
*/
OPEN GasInvCursor
FETCH NEXT FROM GasInvCursor INTO @yTID,@yCID,@yPipe
5 WHILE @@FETCH_STATUS = 0
    BEGIN
        /*
        *****
        * Now go and find one, if one exists.
        *****
        */
        SELECT @zAcctgIdentifier=(SELECT DISTINCT(AcctgIdentifier) FROM GasInv WHERE GasMonth=@GasMonthx AND
        DBCR=1 AND PriceType=1 AND CID=@yCID AND PipeField=@yPipe
        10 AND AcctgIdentifier IS NOT NULL AND AcctgIdentifier<>'')

        IF @zAcctgIdentifier IS NULL
            BEGIN
                /*
                *****
                * For each of these combinations generate
                * and invoice number and update the GasInv
                * table... Make sure that the number
                * to use is padded with zeros in order
                * to create a complete invoice number.
                * REALLY CHEAP ZERO PADDING.
                *****
                */
                SELECT @zNumToUse=@zNumToUse+1
                SELECT @zNumToUseString=CONVERT(VARCHAR(3),@zNumToUse)
                SELECT @zNumToUseLength=LEN(@zNumToUseString)
                SELECT @zNumToUseZeros=""
                IF @zNumToUseLength < 3
                BEGIN
                    IF @zNumToUseLength=2
                    BEGIN
                        SELECT @zNumToUseZeros='0'
                        END
                    IF @zNumToUseLength=1
                    BEGIN
                        SELECT @zNumToUseZeros='00'
                        END
                    END;
                SELECT
                15 @zAcctgIdentifier=@zMonthString+@zYearString+@zNumToUseZeros+@zNumToUseString+'N'
                /*
                *****
                * Finally, post the invoice number that
                * was just created to the gas inventory
                * table.
                *****
                */
                UPDATE
                GasInv
                SET
                20 AcctgIdentifier=@zAcctgIdentifier
                WHERE
                GasMonth=@GasMonthx AND
                DBCR=1 AND
                PriceType=1 AND
                CID=@yCID AND
                PipeField=@yPipe AND
                TID=@yTID
                25 END
            END
        FETCH NEXT FROM GasInvCursor INTO @yTID,@yCID,@yPipe
        30 END
    CLOSE GasInvCursor
    DEALLOCATE GasInvCursor
    END
    35
    40
    45
    50
    55
    60
    65
    70

```

```

GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

10 CREATE PROCEDURE usp_PSPPriceAssignInvoiceNo(
                                           @GasMonthx DATETIME
                                           )

AS
BEGIN
15 SET NOCOUNT ON
/*
*****
Name: usp_PSPPriceAssignInvoiceNo

20 Description: This routine will clear out any existing invoice numbers on the gas
inventory table AND generate/assign an invoice number and post to the gas
inventory table.

25 This particular routine is only looking at 'Sales' (DBCR=1) within the specified
gas month (GasMonthx) that have a price type of '1' (ie.. not a transport inventory
item).

The format of the invoice number that gets generated will be as follows:

30 Character
-----
1 Represents alph code for month (A=January, B=February, etc.).
2 Represents the last digit of the year (1999=9, 2000=0, etc.).
3-5 Represents unique number assigned.
35 6 Represents 'N' for Nominations.

These invoice numbers are generated uniquely for all sales meters within a given pipe and
company identifier. This procedure will assign the invoice number to both the
nom and actual fields. Later (during actual calculations) the actual invoice number may
40 or may not get updated based on the modifications made to the volumes or prices.

Inputs: GasMonthx (Gas Month to calculate),

History:

45 10/27/1999 JAMIE Original creation

11/19/1999 JAMIE Modified the number creation to post the final character as
an 'N'.

50 12/21/1999 JAMIE Modified the number creation process to put the monthly
alphabetic code at the beginning of the invoice number instead of the 2nd
character.

55 *****
*/
/*
*****
* Declare all variables and cursors
60 * that are needed by this process.
*****
*/
DECLARE @yCID VARCHAR(12)
DECLARE @yPipe VARCHAR(12)
65 DECLARE @zAcctgIdentifier VARCHAR(12)
DECLARE @zYear INTEGER
DECLARE @zYearString VARCHAR(1)
DECLARE @zMonth INTEGER
DECLARE @zMonthString VARCHAR(1)
70 DECLARE @zNumToUse INTEGER

```

```

DECLARE @zNumToUseLength INTEGER
DECLARE @zNumToUseString VARCHAR(3)
DECLARE @zNumToUseZeros VARCHAR(3)
/*
5  *****
   * Determine the prefix to use for the
   * creation of the invoice numbers. If more
   * than 10 years then these numbers begin
   * to be reused.
10  *
   * This routine is CHEAP but it should
   * suffice.
   *****
   */
15  SELECT @zYear=YEAR(@GasMonthx)
   SELECT @zYearString=RIGHT(CONVERT(VARCHAR(4),@zYear),1)
   SELECT @zMonth=MONTH(@GasMonthx)
   IF @zMonth=1
20      BEGIN
         SELECT @zMonthString='A'
      END
   IF @zMonth=2
25      BEGIN
         SELECT @zMonthString='B'
      END
   IF @zMonth=3
30      BEGIN
         SELECT @zMonthString='C'
      END
   IF @zMonth=4
35      BEGIN
         SELECT @zMonthString='D'
      END
   IF @zMonth=5
40      BEGIN
         SELECT @zMonthString='E'
      END
   IF @zMonth=6
45      BEGIN
         SELECT @zMonthString='F'
      END
   IF @zMonth=7
50      BEGIN
         SELECT @zMonthString='G'
      END
   IF @zMonth=8
55      BEGIN
         SELECT @zMonthString='H'
      END
   IF @zMonth=9
60      BEGIN
         SELECT @zMonthString='I'
      END
   IF @zMonth=10
65      BEGIN
         SELECT @zMonthString='J'
      END
   IF @zMonth=11
70      BEGIN
         SELECT @zMonthString='K'
      END
   IF @zMonth=12
      BEGIN
         SELECT @zMonthString='L'
      END
   END
/*
   *****
   * Clear out the invoice number that may
   * have preexisted for this particular
   * gas month (this number will always be

```

```

* empty UNLESS the gas month is opened
* and closed more than once).
*****
*/
5 BEGIN TRANSACTION
  UPDATE
    GasInv
    SET
10      WHERE      AcctgIdentifier=NULL
                  GasMonth=@GasMonthx AND
                  DBCR=1 AND
                  PriceType=1 AND
                  (AcctgIdentifier IS NOT NULL OR AcctgIdentifier<>")
15 COMMIT WORK
/*
*****
* Now build a cursor that contains all of
* the unique combinations of company and
20 * pipeline (ordered by company and pipeline).
*****
*/
SELECT @zNumToUse=0
DECLARE GasInvCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
25     SELECT
        DISTINCT
        (GasInv.CID),
        (GasInv.PipeField)
        FROM
30         GasInv
        WHERE
            GasInv.GasMonth=@GasMonthx AND
            GasInv.PriceType=1 AND
            GasInv.DBCR=1
35     ORDER BY
        GasInv.CID,
        GasInv.PipeField
OPEN GasInvCursor
FETCH NEXT FROM GasInvCursor INTO @yCID,@yPipe
40 WHILE @@FETCH_STATUS = 0
    BEGIN
        BEGIN TRANSACTION
        /*
        *****
45         * For each of these combinations generate
        * and invoice number and update the GasInv
        * table... Make sure that the number
        * to use is padded with zeros in order
        * to create a complete invoice number.
        * REALLY CHEAP ZERO PADDING.
        *****
        */
        SELECT @zNumToUse=@zNumToUse+1
        SELECT @zNumToUseString=CONVERT(VARCHAR(3),@zNumToUse)
55     SELECT @zNumToUseLength=LEN(@zNumToUseString)
        SELECT @zNumToUseZeros=""
        IF @zNumToUseLength < 3
            BEGIN
                IF @zNumToUseLength=2
20         BEGIN
                    SELECT @zNumToUseZeros='0'
                END
                IF @zNumToUseLength=1
30         BEGIN
                    SELECT @zNumToUseZeros='00'
                END
            END
        SELECT @zAcctgIdentifier=@zMonthString+@zYearString+@zNumToUseZeros+@zNumToUseString+'N'
        /*
70     *****

```



```

* Finally, post the invoice number that
* was just created to the gas inventory
* table.
*****
5      */
      UPDATE
          GasInv
      SET
          AcctgIdentifier=@zAcctgIdentifier
10     WHERE
          GasMonth=@GasMonthx AND
          DBCR=1 AND
          PriceType=1 AND
          CID=@yCID AND
          PipeField=@yPipe
15     COMMIT WORK
      FETCH NEXT FROM GasInvCursor INTO @yCID,@yPipe
      END
CLOSE GasInvCursor
20 DEALLOCATE GasInvCursor
END

25

GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
30 GO

SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

35 CREATE PROCEDURE usp_PSPPriceAuto
AS
BEGIN
/*
*****
40 Name: usp_PSPPriceAuto

Description:

This procedure will be scheduled at automatically calculate the gas months
45 in their respective stages. Noms get calculated for gas months in the 'Sales' stage.
Pipeline actuals get calculated for gas months in the 'Invoiced' stage. All other gas
months are ignored by this process.

Inputs:

50 None

History:

55 07/29/1999 JAMIE Original Creation.

10/20/1999 JAMIE Modified to invoke the PSPPriceCostAll routine which will
calculate other costs for deals and post them to the engine table.

60 03/22/2000 JAMIE Modified to invoke the single month calculation routine. This will
ensure easier (non duplicated) maintenance on procedures to update price calculations.

*****
65 */
/*
*****
* Declare all variables and cursors
* that are needed by this process.
*****
70 */

```

```

DECLARE @yGasMonth DATETIME
/*
*****
5  * First, calculate all of the nom
  * numbers (each gas month).
  *****
*/
DECLARE GasMonthCursor1 CURSOR LOCAL STATIC FORWARD_ONLY FOR
10      SELECT
          GasMonth
        FROM
          rGasMonth
        WHERE
          CurrentStatus='Sales' AND
15      (LockedUser IS NULL OR LockedUser='')
        ORDER BY
          GasMonth

OPEN GasMonthCursor1
FETCH NEXT FROM GasMonthCursor1 INTO @yGasMonth
20 WHILE @@FETCH_STATUS = 0
    BEGIN
        EXECUTE usp_PSPPriceAutoMonth @yGasMonth,0
        FETCH NEXT FROM GasMonthCursor1 INTO @yGasMonth
    END
25 CLOSE GasMonthCursor1
DEALLOCATE GasMonthCursor1
/*
*****
30 * Now calculate based on the pipeline
  * actuals each month.
  *****
*/
DECLARE GasMonthCursor2 CURSOR LOCAL STATIC FORWARD_ONLY FOR
35      SELECT
          GasMonth
        FROM
          rGasMonth
        WHERE
          CurrentStatus='Invoiced' AND
40      (LockedUser IS NULL OR LockedUser='')
        ORDER BY
          GasMonth

OPEN GasMonthCursor2
FETCH NEXT FROM GasMonthCursor2 INTO @yGasMonth
45 WHILE @@FETCH_STATUS = 0
    BEGIN
        EXECUTE usp_PSPPriceAutoMonth @yGasMonth,1
        FETCH NEXT FROM GasMonthCursor2 INTO @yGasMonth
    END
50 CLOSE GasMonthCursor2
DEALLOCATE GasMonthCursor2
END

55
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
60
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

65 CREATE PROCEDURE usp_PSPPriceAutoMonth(
          @GasMonthx DATETIME,
          @WhichVolumex INTEGER
        )
AS
BEGIN
70 SET NOCOUNT ON

```

```

/*
*****
Name: usp_PSPPriceAutoMonth

5   Description:

    This procedure will be execute all of the price calculation procedures
    required for a given month INCLUDING locking the month from other executions... This
10  particular procedure will be executed asynchronously by the system through the online
    screens.

    Inputs:

    GasMonthx (Gas month to calculate)
15  WhichVolumex (Price noms=0, Price actuals=1)

    History:

    08/31/1999 JAMIE Original Creation.

20  12/15/1999 JAMIE Modified to execute a new stored procedure once
    the gas month has been changed to the 'Accounting' status. This new
    procedure will mark and 'zap' the invoice numbers (amongst other things)
    on those gas inventory items were some sort of a price or volume adjustment
25  was made.

    03/22/2000 JAMIE Modified this process to handle all of the calculations for
    gas months, etc. Moved the 'Divie' process to this routine (was buried within
    the transport cost module).

30  05/24/2000 JAMIE Modified to enable an outer cursor on company entity (CID). This will
    allow for the partitioning of the calculations based on company ID (so we don't mix
    WASP Pool results/etc.).

35  07/26/2000 JAMIE Modified to incorporate the changes to process calculations for certain
    types of deals prior to others (ie. 3rd party first so that profits can be distributed.
    This change included passing a new parameter to the PSPPriceAll function (on which
    pool (" for all)...

40  08/25/2000 JAMIE Modified to remove logic that invoked the older calculation
    routines.

    02/01/2001 JAMIE Modified to remove the transport section (commented out).

45  *****
    */
    DECLARE @yCIDEntity VARCHAR(12)
    DECLARE @yGasMonth DATETIME
    DECLARE @yCurrentStatus VARCHAR(20)

50  DECLARE EntityCIDCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
    SELECT
        CID
    FROM
55         company
    WHERE
        EntityIndicator='Y'
    ORDER BY
        CID

60  /*
    *****
    * Execute a cursor to calculate based on
    * entity.
    *****
65  */
    OPEN EntityCIDCursor
    FETCH NEXT FROM EntityCIDCursor INTO @yCIDEntity
    WHILE @@FETCH_STATUS = 0
    BEGIN
70         /*

```

```

5  * Now only calculate if the month
  * is not currently involved with a
  * calculation of some sort (month
  * needs to be unlocked).
  *
  * If the status was modified and the
  * current status in 'Invoiced' then
  * go and build all of the pipeline
  * actuals.
10 *****
  */
  DECLARE GasMonthCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
      SELECT
          GasMonth,
          CurrentStatus
          FROM
              rGasMonth
          WHERE
              GasMonth=@GasMonthx AND
              (LockedUser IS NULL OR LockedUser='')
  OPEN GasMonthCursor
  FETCH NEXT FROM GasMonthCursor INTO @yGasMonth,@yCurrentStatus
  WHILE @@FETCH_STATUS = 0
      BEGIN
          /*
          *****
          * Indicate that the gas month is in
          * progress so that no one else tries to
          * calculate at the same time.
          *****
          */
          UPDATE
              rGasMonth
              SET
                  LockedUser='PSPPriceAutoM',
                  LockedDate=getdate()
              WHERE
                  GasMonth=@GasMonthx
          /*
          *****
          * Calculate prices on all sales deals...
          *****
          */
          EXECUTE usp_PSPPriceAll @GasMonthx,1,@WhichVolumex,0,@yCIDEntity,"
          /*
          *****
          * Calculate 'Other Costs' associated to
          * all sales deals (required here in
          * order to post the other cost amounts
          * to WASP pools/etc...
          *****
          */
          EXECUTE usp_PSPPriceCostAll @GasMonthx,@WhichVolumex,@yCIDEntity,1,"
          /*
          *****
          * Now create the temporary WASP Routing
          * table entries for all products, services
          * and wasp types. The calculations will
          * not 'walk back' from sale to purchase
          * here (unless OLD routing month)...
          *****
          */
          EXECUTE usp_PSPPriceWASPCalc @GasMonthx,@WhichVolumex,@yCIDEntity
          /*
          *****
          * If new routing method then resolve based
          * on entity and IncludeInWasp pool. This
          * is done this way in order to potentially
          * distribute proceeds from 3rd party
          *****
          */
      END
  
```

```

* deals back to either a WASP pool meter
* or to another deal...
*
* 1. Resolve and price 'None' pool.
* 2. Divie out any proceeds.
* 3. Resolve and price 'Dedicated' pool.
* 4. Resolve and price 'Common' pool.
*****
*/
EXECUTE usp_PSPPriceWASPCalcResolveDriver
@GasMonthx,@WhichVolumex,@yCIDEntity,'None'
EXECUTE usp_PSPPriceAll @GasMonthx,0,@WhichVolumex,0,@yCIDEntity,'None'
EXECUTE usp_PSPPriceCostAll @GasMonthx,@WhichVolumex,@yCIDEntity,0,'None'
EXECUTE usp_PSPPriceWASPDiveOutProceedsN
@GasMonthx,@WhichVolumex,@yCIDEntity
EXECUTE usp_PSPPriceWASPCalcResolveDriver
@GasMonthx,@WhichVolumex,@yCIDEntity,'Dedicated'
EXECUTE usp_PSPPriceAll @GasMonthx,0,@WhichVolumex,0,@yCIDEntity,'Dedicated'
EXECUTE usp_PSPPriceCostAll @GasMonthx,@WhichVolumex,@yCIDEntity,0,'Dedicated'
EXECUTE usp_PSPPriceWASPCalcResolveDriver
@GasMonthx,@WhichVolumex,@yCIDEntity,'Common'
EXECUTE usp_PSPPriceAll @GasMonthx,0,@WhichVolumex,0,@yCIDEntity,'Common'
EXECUTE usp_PSPPriceCostAll @GasMonthx,@WhichVolumex,@yCIDEntity,0,'Common'
/*
*****
* Calculate Transport contract gas inventory
* items (create them along with any
* transport deals).
*****
EXECUTE usp_PSPPriceTransportAll @GasMonthx,@WhichVolumex,0,@yCIDEntity
/*
*****
* Indicate that the gas month is finished
* and commit the updates.
*****
*/
UPDATE
    rGasMonth
SET
    LockedUser="
WHERE
    GasMonth=@GasMonthx
/*
*****
* Check to make sure that any items that
* require an invoice number gets created.
* This is only applicable when the gas month
* is in an 'Invoiced' state already. This
* picks up any new deals/meters created
* after the gas month promoted to 'Invoiced'.
*****
*/
IF (@yCurrentStatus='Invoiced')
BEGIN
EXECUTE usp_PSPPriceAnyNewInvoicesNeeded @yGasMonth,@yCIDEntity
END
FETCH NEXT FROM GasMonthCursor INTO @yGasMonth,@yCurrentStatus
END
CLOSE GasMonthCursor
DEALLOCATE GasMonthCursor
FETCH NEXT FROM EntityCIDCursor INTO @yCIDEntity
END
CLOSE EntityCIDCursor
DEALLOCATE EntityCIDCursor
END

```

```

5      GO
      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO
10     CREATE PROCEDURE usp_PSPPriceComponentsCheck(

                                     @PIDx INTEGER,
                                     @WhichPricex INTEGER,
                                     @GasMonthx DATETIME,
                                     @DBCRx INTEGER
                                     )

      AS
      BEGIN
      /*
20     *****
      Name: usp_PSPPriceComponentsCheck

      Description:

25     Create any system generated pricing components automatically. Any existing
      system generated pricing components are deleted. Then they are recreated
      within this particular process. This procedure should be invoked for all
      packages that were created within a given gas month. Current System
30     Generated Items include price components tagged as 'NETBACK PERCENTAGE' or
      'WASP'.

      Inputs:

35     PIDx - Package Identifier
      WhichPricex - 0=Nominations, 1=Actuals
      GasMonthx - Gas Month for Price Calculations
      DBCRx - 0=Purchase, 1=Sales

      History:

40     05/12/1999 JAMIE Original Creation.

      07/28/2000 JAMIE Modify this process so that OIL, GAS or LIQUIDS is used when
      obtaining the netback percentage. This is based on the product ID for the deal.
45     08/17/2000 JAMIE Modify the process to eliminate any pricing entries on
      WASP/EQUITY deals ('Common' pool). This will ensure that the only pricing
      entries on the wasp deals are those that are system generated.

50     *****
      */
      /*
      *****
55     * Declare all variables and cursors
      * that are needed by this process.
      *****
      */

      DECLARE @zProductID INTEGER
      DECLARE @zProductNetbackType VARCHAR(12)
60     DECLARE @yWasplndicator VARCHAR(10)
      DECLARE @yEngineMasterRecords INTEGER
      DECLARE @yEngineMasterETID_Key INTEGER
      DECLARE @yEngineMasterPriceSequence INTEGER
      DECLARE @yNetBackPercentage DECIMAL(19,8)
65     DECLARE ETIDCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
      SELECT
          DISTINCT
          ETID
70     FROM

```

```

        Engine_Master
    WHERE
        PID=@PIDx
/*
*****
5  * Get the WASP indicator for this
  * particular deal via a function call.
  * This is based on how the deal is
  * classified.
  *****
10 */
EXECUTE usp_fGetWaspIndicator @PIDx,@yWaspIndicator OUTPUT
/*
*****
15 * All deals should have system generated
  * price entries removed here...
  *
  * In addition, 'Common' wasp pool deals
  * will have all non system generated
20 * price entries removed. Only purchase
  * deals are impacted by system generated
  * entries.
  *****
25 */
OPEN ETIDCursor
FETCH NEXT FROM ETIDCursor INTO @yEngineMasterETID_Key
WHILE @@FETCH_STATUS = 0
    BEGIN
        IF @yWaspIndicator='Common'
            BEGIN
                IF @DBCRx=0
                    BEGIN
                        DELETE
35                                FROM
                                    Engine_MasterPrice
                                WHERE
                                    (Engine_MasterPrice.ETID=@yEngineMasterETID_Key) AND
40                                (Engine_MasterPrice.NomOrActual=@WhichPricex)
                                END
                            END
                        ELSE
                            BEGIN
                                DELETE
45                                FROM
                                    Engine_MasterPrice
                                WHERE
50                                (Engine_MasterPrice.ETID=@yEngineMasterETID_Key) AND
                                    (Engine_MasterPrice.NomOrActual=@WhichPricex) AND
                                    (Engine_MasterPrice.PriceTag=ANY(SELECT PriceTag FROM
                                        PriceComponents WHERE SystemGenerated='Y'))
                                END
                            END
                        FETCH NEXT FROM ETIDCursor INTO @yEngineMasterETID_Key
55                    END
CLOSE ETIDCursor
DEALLOCATE ETIDCursor
/*
*****
60 * Now generate (insert) the price
  * components that are required. These
  * system generated price components are
  * recognized by the PriceTag name. There
  * should be a section within this procedure
65 * specifically for any system generated
  * pricing components.
  *****
  */
/*
70 *****

```

```

* "WASP" and "NETBACK PERCENTAGE"
*
* These two components go hand-in-hand.
*
5  * 1. Only system generate these if it is
   * a purchase task and the deal is considered
   * 'Wasp'able.
   *****
10 */
   IF ((@yWasIndicator='Common') OR (@yWasIndicator='Dedicated')) AND (@DBCrx=0)
       BEGIN
           /*
           *****
           * Determine the correct product type in order
           * to get the correct contract netback
           * tier information.
           *****
           */
           EXECUTE usp_fGetWaspType @PIDx,@zProductNetbackType OUTPUT
           /*
           *****
           * Now go and find an Engine_Master record
           * to attach these components too. If one
           * is not found, then insert one. An
           * attempt to preserve the existing record
           * will ensure that nominations and pipe
           * line actuals will utilize the same
           * Engine_Master entity.
           *****
           */
           SELECT @yEngineMasterRecords = ISNULL((SELECT count(*) FROM engine_master
                                                    WHERE PID=@PIDx AND
Effective=@GasMonthx AND STID=8 AND VolLevel=0),0)
           IF @yEngineMasterRecords=0
               BEGIN
                   INSERT
                               INTO
                                   Engine_Master
                   (PID,Effective,STID,VolLevel,VolGroup,VarFixed,MMBtuMCF,TierThreshold)
                   VALUES
                               (@PIDx,@GasMonthx,8,0,@PIDx,1,1,1)
                   END
           SELECT @yEngineMasterETID_Key = ISNULL((SELECT MIN(ETID) FROM Engine_Master
                                                    WHERE PID=@PIDx AND
Effective=@GasMonthx AND STID=8 AND VolLevel=0),0)
           /*
           *****
           * At this point we now either have a valid
           * ETID (key) to the Engine_Master or 0.
           * There should be only a single record on
           * the Engine_Master for these types of
           * packages.
           *
           * Now insert the 'WASP' price component.
           *****
           */
           IF @yEngineMasterETID_Key > 0
               BEGIN
                   SELECT @yEngineMasterPriceSequence = ISNULL((SELECT MAX(SequenceNo) FROM
Engine_MasterPrice
                                                    WHERE
ETID=@yEngineMasterETID_Key AND NomOrActual=@WhichPricex),0)
                   SELECT @yEngineMasterPriceSequence = @yEngineMasterPriceSequence+1
                   INSERT
                               INTO
                                   Engine_MasterPrice
                   (ETID,PriceTag,OperandVariable,PriceVariable,CreateUser,CreateDate,LastUpdateUser,
LastUpdateDate,SequenceNo,NomOrActual)

```



```

VALUES
    (@yEngineMasterETID_Key,'WASP','+', 'WASP',UPPER(user_name()),
getdate(),UPPER(user_name()),getdate()),@yEngineMasterPriceSequence,@WhichPricex)
5      END
      /*
      *****
      * Now invoke the 'NETBACK PERCENTAGE'
      * calculation routine and then insert this
      * particular price component. Remember to
      * put the netback percentage into its
      * 'string' representation.
      *****
      */
15     IF @yEngineMasterETID_Key > 0
        BEGIN
            EXECUTE usp_fGetNetbackPercentage
            @PIDx,@GasMonthx,@zProductNetbackType,@WhichPricex,@yNetBackPercentage OUTPUT
            IF @yNetBackPercentage IS NULL
20                BEGIN
                    SELECT @yNetBackPercentage = 0
                END
            SELECT @yEngineMasterPriceSequence = @yEngineMasterPriceSequence+1
            INSERT
25                INTO
                    Engine_MasterPrice
                    (ETID,PriceTag,OperandVariable,PriceVariable,CreateUser,
                    CreateDate,LastUpdateUser,LastUpdateDate,SequenceNo,NomOrActual)
30                VALUES
                    (@yEngineMasterETID_Key,'NETBACK
PERCENTAGE','+',LTRIM(STR(@yNetBackPercentage,8,4)),
                    UPPER(CURRENT_USER),getdate(),UPPER(CURRENT_USER),getdate()),@yEngineMasterPriceSequence,@WhichPricex)
35            END
        END
END

40

45     GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

50     SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

CREATE PROCEDURE usp_PSPPriceCost(
    @GasMonthx DATETIME,
    @WhichPricex INTEGER,
55     @PKGx INTEGER,
    @STIDx INTEGER,
    @PCIDx INTEGER,
    @TIDx INTEGER,
    @CostLevelx VARCHAR(12),
    @CostBasisx VARCHAR(40),
    @CostRateOrAmountx DECIMAL(19,6),
    @TotalVolumex DECIMAL(19,2),
    @MeterVolumex DECIMAL(19,2)
65     )
AS
BEGIN
    /*
    *****
70     Name: usp_PSPPriceCost

```

Description: This particular procedure will perform the actual calculations and post updates to the engine table (for other costs associated with deals). This is done for each meter within a deal for an other cost item.

```

5      Inputs:

      GasMonthx (Gas Month to cost)
      WhichPricex (0=Nominations, 1=Actualizations)
      PKGx (deal id)
10     STIDx (engine transaction id)
      PCIDx (deal other cost unique id (see PackageCosts table)
      TIDx (gas inventory identifier)
      CostLevelx (Level that cost is appropriated towards)
      CostBasisx (rules governing calculation of the cost)
15     CostRateOrAmountx (rate or amount involved in cost)
      TotalVolumex (total volume for deal)
      MeterVolumex (total volume for meter within deal).

      History:
20     10/20/99 JAMIE Initial creation.

      03/26/00 JAMIE Modified to allow for zero volume deals to have other (fixed) costs
      assigned to them.
25     10/03/20 JAMIE Modified to correct problem associated with 'METER'
      calculations using entire deal volume.

      12/01/2000 JAMIE Modified to apply the netback percentage to the other
30     cost when it is calculated. This percentage is only applicable to purchase
      deals that are in the 'Common' or 'Dedicated' pools.

      12/10/2000 JAMIE Modified to check for the apply netback flag on the
35     cost record in order to determine if the netback percentage should be
      applied to the cost.

      *****
      */
      /*
40     *****
      * Declare all variables and cursors
      * that are needed by this process.
      *****
      */
45     DECLARE @zNetbackPercent DECIMAL(19,6)
      DECLARE @zProductNetbackType VARCHAR(12)
      DECLARE @yWaspIndicator VARCHAR(10)
      DECLARE @zDBCR INTEGER
      DECLARE @zApplyNetback VARCHAR(1)

50     DECLARE @zPercentToApply DECIMAL(19,4)
      DECLARE @zAmountToApply DECIMAL(19,2)
      DECLARE @zTotalSaleOrPurchValue DECIMAL(19,2)
      DECLARE @zTotalMeters INTEGER

55     /*
      *****
      * Initialize any fields required.
      *****
      */
60     SELECT @zNetbackPercent=0
      SELECT @zAmountToApply=0
      SELECT @zPercentToApply=1
      SELECT @zTotalSaleOrPurchValue=0
65     /*
      *****
      * Get the WASP indicator for this
      * particular deal via a function call.
      * This is based on how the deal is
70     * classified.

```

```

*****
*/
EXECUTE usp_fGetWasIndicator @PKGx,@yWasIndicator OUTPUT
5 SELECT @zDBCR=ISNULL((SELECT packagedbcr FROM package WHERE pkg=@PKGx),0)
SELECT @zApplyNetback=ISNULL((SELECT applynetback from packagecosts WHERE pcid=@PCIDx),'Y')
/*
*****
* Determine the correct product type in order
* to get the correct contract netback
10 * tier information.
*****
*/
IF @zDBCR=0
15 BEGIN
IF (@yWasIndicator='Common') OR (@yWasIndicator='Dedicated')
BEGIN
EXECUTE usp_fGetWasType @PKGx,@zProductNetbackType OUTPUT
EXECUTE usp_fGetNetbackPercentage
20 @PKGx,@GasMonthx,@zProductNetbackType,@WhichPricex,@zNetbackPercent OUTPUT
END
END
/*
*****
* Determine the percentage of whatever the
25 * cost will calculate to here.
* involved with this calculation. If it
* is a deal level fixed cost then show
* zeros IF there is no volume.
*****
30 */
IF (@MeterVolumex<>0) AND (@TotalVolumex<>0)
BEGIN
IF @CostLevelx='DEAL'
35 BEGIN
SELECT
@zPercentToApply=CONVERT(DECIMAL(19,4),@MeterVolumex)/CONVERT(DECIMAL(19,4),@TotalVolumex)
END
END
40 IF (@MeterVolumex = 0) AND (@CostLevelx='DEAL')
BEGIN
SELECT @zPercentToApply=0
END
/*
45 *****
* If the cost is a FIXED AMOUNT and there
* is no volume for the deal then determine
* the amount to apply based on the number
* of meters involved in the deal. If 1
* meter only then 100% of cost assessed to
50 * that meter. If 2 meters then 50% assessed
* to each one. etc..
*****
*/
55 IF (@MeterVolumex=0) AND (@TotalVolumex=0)
BEGIN
IF @CostBasisx='Fixed Amount'
BEGIN
SELECT @zTotalMeters=ISNULL((SELECT count(*) FROM GasInv WHERE PKG=@PKGx
60 AND GasMonth=@GasMonthx),0)
IF @zTotalMeters <> 0
BEGIN
SELECT
@zPercentToApply=(1/CONVERT(DECIMAL(19,4),@zTotalMeters))
SELECT
65 @zAmountToApply=(@CostRateOrAmountx*@zPercentToApply)
END
END
END
70 /*
*****

```

```

* Calculate based on fixed amount
* here... Since this is a fixed amount
* then the amount should be calculated
* proportionately based on the total
* volume percentage to the deal.
*****
5  */
   IF @CostBasisx='Fixed Amount'
       BEGIN
10         IF (@CostRateOrAmountx<>0) AND (@zPercentToApply<>0)
               BEGIN
                   SELECT @zAmountToApply=(@CostRateOrAmountx*@zPercentToApply)
               END
       END
15  /*
*****
   * Calculate based on a rate applied
   * against MMBTU's here... Regardless
   * of whether or not this is a 'DEAL'
20  * level or 'METER' level charge the
   * cost should be based on meter
   * volume.
*****
25  */
   IF (@MeterVolumex<>0)
       BEGIN
           IF @CostBasisx='Rate Applied to MMBTUs'
               BEGIN
30                 IF (@CostRateOrAmountx<>0)
                       BEGIN
                           SELECT
@zAmountToApply=((CONVERT(DECIMAL(19,4),@MeterVolumex)*@CostRateOrAmountx))
                           END
                       END
35             END
         /*
*****
         * Calculate based on the total dollar amount
         * previously calculated here... Since
40  * this particular cost is calculating on
         * just the amount for the associated
         * meter (ie.. sum of engine based on
         * TID) then the 'PercentToApply' is
         * not applicable.
*****
45  */
   IF (@MeterVolumex<>0) AND (@TotalVolumex<>0)
       BEGIN
           IF @CostBasisx='Rate Applied to Value'
               BEGIN
50                 IF @WhichPricex=0
                       BEGIN
                           SELECT @zTotalSaleOrPurchValue=ISNULL((SELECT SUM(amount)
FROM engine WHERE tid=@tid AND (stid=8 OR stid=9)),0)
55                 END
                       IF @WhichPricex=1
                           BEGIN
                               SELECT @zTotalSaleOrPurchValue=ISNULL((SELECT
SUM(amountact) FROM engine WHERE tid=@tid AND (stid=8 OR stid=9)),0)
60                 END
                               IF (@CostRateOrAmountx<>0) AND (@zTotalSaleOrPurchValue<>0)
                                   BEGIN
                                       SELECT
@zAmountToApply=(@zTotalSaleOrPurchValue*@CostRateOrAmountx)
65                 END
                                   END
                               END
70  /*
*****
   * Finally, post the cost amount to the

```

```

* Engine table. If the engine table for
* this transaction does not yet exist then
* insert it, otherwise just update it...
*
5  * Make sure that actual calculations and
* nomination calculations are done within
* their respective 'buckets'.
*****

10 */
/*
*****

* First apply the netback if it
* is there AND if the apply
* netback flag has been set
15 * on the cost item.
*****

*/
IF @zApplyNetback = 'Y'
20     BEGIN
        IF @zNetbackPercent<>0
            BEGIN
                SELECT @zAmountToApply=ROUND((@zAmountToApply*@zNetbackPercent),2)
            END
        END
25 */
*****

* Apply and post the amount
* here...
*****

30 */
IF @WhichPricex=0
    BEGIN
        IF (SELECT count(*) FROM Engine WHERE TID=@TIDx AND STID=@STIDx AND Effective=@GasMonthx AND
35 VolLevel=0)=0
            BEGIN
                INSERT
                    INTO
                    Engine
40 (TID,STID,Effective,VolLevel,VolGroup,MMBTuMCF,Volume,Amount,PriceOrRateNom,PriceOrRateAct,VolumeAct,AmountAct,EM_E
TID)
                    VALUES
45 (@TIDx,@STIDx,@GasMonthx,0,@PKGx,1,0,ROUND(@zAmountToApply,2),0,0,0,0,@PCIDx)
            END
        ELSE
            BEGIN
                UPDATE
50     engine
                SET
                    Amount=Amount+ROUND(@zAmountToApply,2)
                WHERE
55     TID=@TIDx AND
                STID=@STIDx AND
                Effective=@GasMonthx AND
                VolLevel=0
            END
        END
60 IF @WhichPricex=1
    BEGIN
        IF (SELECT count(*) FROM Engine WHERE TID=@TIDx AND STID=@STIDx AND Effective=@GasMonthx AND
        VolLevel=0)=0
            BEGIN
                INSERT
65     INTO
                Engine
                (TID,STID,Effective,VolLevel,VolGroup,MMBTuMCF,Volume,Amount,PriceOrRateNom,PriceOrRateAct,VolumeAct,AmountAct,EM_E
70 TID)
                VALUES

```

```

                (@TIDx,@STIDx,@GasMonthx,0,@PKGx,1,0,0,0,0,ROUND(@zAmountToApply,2),@PCIDx)
                END
5          ELSE
                BEGIN
                        UPDATE
                                engine
                                SET
10                                AmountAct=AmountAct+ROUND(@zAmountToApply,2)
                                WHERE
                                        TID=@TIDx AND
                                        STID=@STIDx AND
                                        Effective=@GasMonthx AND
                                        VolLevel=0
15                                END
                END
        END
END

20

25  GO
    SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

    SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO
30

    CREATE PROCEDURE usp_PSPPriceCostAll(

                                @GasMonthx DATETIME,
                                @WhichPriceX INTEGER,
                                @EntityCIDx VARCHAR(12),
                                @DBCRx INTEGER,
                                @IncludeInWaspx VARCHAR(10)
35                                )

    AS
    BEGIN
40      /*
      *****
      Name: usp_PSPPriceCostAll

45      Description: Loop through all other costs associated to deals within a given month
      then apply the cost to the dean (posting engine records reflecting the cost amounts).
      or sale) and invoke the price procedures.

      Inputs:

50      GasMonthx - Gas Month to price),
      WhichPriceX - 0=Nominations, 1=Actualizations
      EntityCIDx - owning entity company identifier
      DBCRx - 0=Purchases, 1=Sales (deals)
      IncludeInWaspx = " for all or specific pool (ie. 'Common', etc.).

55      History:

      10/20/99 JAMIE Initial creation.

      03/26/00 JAMIE Modified to allow for zero volume deals to have other (fixed) costs
      assigned to them.

      05/24/2000 JAMIE Modified to make sure that the calculation was within a specific
      entity.

65      10/03/2000 JAMIE Modified to accept two additional parameters to dictate which
      pool and whether or not purchases or sales were to be calculated upon...

      *****
70      */

```

```

/*
*****
* Declare all variables and cursors
* that are needed by this process.
*****
5 */
DECLARE @zMessage VARCHAR(254)
DECLARE @zTotalVolume DECIMAL(19,2)
DECLARE @zMeterVolume DECIMAL(19,2)
10 DECLARE @zVolumeStatus INTEGER
DECLARE @zPriceStatus INTEGER
DECLARE @zIncludeInWasp VARCHAR(10)

DECLARE @yPCID INTEGER
DECLARE @yPKG INTEGER
DECLARE @ySTID INTEGER
DECLARE @yCostLevel VARCHAR(12)
DECLARE @yCostMID INTEGER
20 DECLARE @yCostBasis VARCHAR(40)
DECLARE @yCostRateOrAmount DECIMAL(19,4)

DECLARE @wTID INTEGER
DECLARE @wNom DECIMAL(19,2)
DECLARE @wPipelineActuals DECIMAL(19,2)
25 DECLARE @wGasInv_MID INTEGER

DECLARE @eETID INTEGER
DECLARE @eVolume DECIMAL(19,2)
DECLARE @ePriceOrRateNom DECIMAL(19,6)
30 DECLARE @eVolumeAct DECIMAL(19,2)
DECLARE @ePriceOrRateAct DECIMAL(19,6)
DECLARE @evolumestatus INTEGER
DECLARE @epricestatus INTEGER
35 DECLARE @ePKG INTEGER

DECLARE PackageCostsCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
    PackageCosts.PCID,
    PackageCosts.PKG,
    PackageCosts.STID,
    PackageCosts.CostLevel,
    PackageCosts.CostMID,
    PackageCosts.CostBasis,
    PackageCosts.CostRateOrAmount
40 FROM
    PackageCosts
WHERE
    PackageCosts.PKG=ANY(SELECT PKG FROM Package,k WHERE PackageGasMonth=@GasMonthx AND
    K.KID=Package.KID AND K.EntityCID=@EntityCIDx AND
50 Package.PackageDBCR=@DBCRx)
ORDER BY
    PackageCosts.PKG,
    PackageCosts.STID

55 DECLARE EngineCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
    engine.etid,
    engine.volume,
    engine.priceorratenom,
    engine.volumeact,
    engine.priceorrateact,
    engine.volumestatus,
    engine.pricestatus,
    package.pkg
60 FROM
    engine,
    gasinv,
    package,
    k
65 WHERE
70

```

```

package.pkg=gasinv.pkg AND
k.kid=package.kid AND
k.entitycid=@entitycidx AND
gasinv.gasmonth=@GasMonthx AND
engine.tid=gasinv.tid AND
gasinv.pricetype=1 AND
gasinv.dbcr=@DBCRx

/*
*****
* Loop through each other package cost
* involved with this calculation.
*****
*/
SELECT @zMessage = 'PSPriceCostAll Running To Calculate Other Costs for all Deals'
EXECUTE usp_Message @zMessage
OPEN PackageCostsCursor
FETCH NEXT FROM PackageCostsCursor INTO @yPCID,@yPKG,@ySTID,@yCostLevel,@yCostMID,@yCostBasis,@yCostRateOrAmount
WHILE @@FETCH_STATUS = 0
    BEGIN
        BEGIN TRANSACTION
        /*
        *****
        * Sum the appropriate volumes for this
        * deal depending on whether nominations are
        * being calculated OR pipeline actuals are
        * begin calculated.
        *****
        */
        SELECT @zMessage = 'PSPriceCostAll Calculating Costs for Deal...' + CAST(@yPKG AS VARCHAR(10))
        EXECUTE usp_Message @zMessage
        EXECUTE usp_fGetWaspIndicator @yPKG,@zIncludeInWasp OUTPUT
        IF (@IncludeInWasp="" ) OR (@IncludeInWasp=@zIncludeInWasp)
            BEGIN
                IF @WhichPrice=0
                    BEGIN
                        SELECT @zTotalVolume=ISNULL((SELECT SUM(Nom) FROM
GasInv WHERE GasInv.PKG=@yPKG AND GasInv.PriceType=1),0)
                    END
                IF @WhichPrice=1
                    BEGIN
                        SELECT @zTotalVolume=ISNULL((SELECT SUM(PipelineActuals)
FROM GasInv WHERE GasInv.PKG=@yPKG AND GasInv.PriceType=1),0)
                    END
            END
        /*
        *****
        * Open a cursor on all meters associated
        * with this deal.
        *****
        */
        DECLARE GasInvCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
        SELECT
            GasInv.TID,
            GasInv.Nom,
            GasInv.PipelineActuals,
            GasInv.GasInv_MID
        FROM
            GasInv
        WHERE
            GasInv.PKG=@yPKG AND
            GasInv.PriceType=1

        OPEN GasInvCursor
        FETCH NEXT FROM GasInvCursor INTO @wTID,@wNom,@wPipelineActuals,@wGasInv_MID
        WHILE @@FETCH_STATUS = 0
            BEGIN
                /*
                *****
                * Depending on which pricing routine is
                * run, set the appropriate meter volume
                * field.
                *****
                */

```







```

*****
* Declare all variables and cursors
* that are needed by this process.
*****
5  */
   DECLARE @zMessage VARCHAR(254)
   DECLARE @yPKG INTEGER
   DECLARE @yETID INTEGER
10  DECLARE @yEM_ETID INTEGER
   /*
   *****
   * Clear out the link and price entry
   * structures for the specified month
   * here... These entries will be
15  * recreated (from Nom side) in the
   * next step.
   *
   * Database triggers take care of the
   * individual pricing components in
20  * the Engine_MasterPrice table.
   *****
   */
   SELECT @zMessage = 'PSPriceCreateActualEntries, removing Engine_MasterPrice...'
   EXECUTE usp_Message @zMessage
25  DECLARE Engine_MasterDeleteCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
       SELECT
           DISTINCT
           (Engine_Master.ETID)
           FROM
30             Engine_Master,
             GasInv,
             Engine_MasterPrice
           WHERE
35             GasInv.GasMonth=@GasMonthx AND
             GasInv.PriceType=1 AND
             GasInv.PKG=Engine_Master.PID AND
             Engine_MasterPrice.ETID=Engine_Master.ETID AND
             Engine_MasterPrice.NomOrActual=1
   OPEN Engine_MasterDeleteCursor
   FETCH NEXT FROM Engine_MasterDeleteCursor INTO @yEM_ETID
40  WHILE @@FETCH_STATUS = 0
       BEGIN
           BEGIN TRANSACTION
           SELECT @zMessage = 'PSPriceCreateActualEntries, actual Engine_MasterPrice removed...'
45  EXECUTE usp_Message @zMessage
           DELETE
               FROM
                   Engine_MasterPrice
               WHERE
50  ETID=@yEM_ETID AND
           NomOrActual=1
           COMMIT WORK
           FETCH NEXT FROM Engine_MasterDeleteCursor INTO @yEM_ETID
           END
55  CLOSE Engine_MasterDeleteCursor
   DEALLOCATE Engine_MasterDeleteCursor
   /*
   *****
   * Now bulk populate the engine
   * pricing information. Taking nom
   * pricing entries and creating actual
   * pricing entries.
   *****
60  */
   SELECT @zMessage = 'PSPriceCreateActualEntries, running GasInv cursor...'
   EXECUTE usp_Message @zMessage
   DECLARE GasInvCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
       SELECT
70  DISTINCT
           (GasInv.PKG)

```

```

FROM
    GasInv
WHERE
    GasInv.GasMonth=@GasMonthx AND
    GasInv.PriceType=1
5
OPEN GasInvCursor
FETCH NEXT FROM GasInvCursor INTO @yPKG
WHILE @@FETCH_STATUS = 0
    BEGIN
10
        BEGIN TRANSACTION
        SELECT @zMessage = 'PSPPriceCreateActualEntries, obtaining price entries for GasInv Package...'
        EXECUTE usp_Message @zMessage
        DECLARE Engine_MasterCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
        SELECT
15
            DISTINCT
            (ETID)
            FROM
                Engine_Master
            WHERE
20
                PID=@yPKG
        OPEN Engine_MasterCursor
        FETCH NEXT FROM Engine_MasterCursor INTO @yETID
        WHILE @@FETCH_STATUS = 0
            BEGIN
25
                SELECT @zMessage = 'PSPPriceCreateActualEntries, inserting actual prices...'
                EXECUTE usp_Message @zMessage
                INSERT
                    INTO
30
                        Engine_MasterPrice
                        (ETID,PriceTag,OperandVariable,PriceVariable,CreateUser,
                        CreateDate,LastUpdateUser,LastUpdateDate,SequenceNo,NomOrActual)
                        (SELECT
35
                            ETID,PriceTag,OperandVariable,PriceVariable,CreateUser,CreateDate,LastUpdateUser,LastUpdateDate,
                            SequenceNo,1 FROM Engine_MasterPrice WHERE ETID=@yETID
                            AND NomOrActual=0)
                FETCH NEXT FROM Engine_MasterCursor INTO @yETID
            END
40
        CLOSE Engine_MasterCursor
        DEALLOCATE Engine_MasterCursor
        COMMIT WORK
        FETCH NEXT FROM GasInvCursor INTO @yPKG
    END
45
CLOSE GasInvCursor
DEALLOCATE GasInvCursor
END

50
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
55
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

60
CREATE PROCEDURE usp_PSPPriceMarkActualAdjustments(
    @GasMonthx DATETIME
)
AS
BEGIN
    SET NOCOUNT ON
65
    /*
    *****
    Name: usp_PSPPriceMarkActualAdjustments

    Description: This routine will go through each inventory (and engine
70
    records) in order to identify and mark those records that had some sort of

```



```

* noms and actuals will have been
* updated to a 'Y'. Now go and reset
* the accounting identifier for each of
* these records.
5  *****

*/
SELECT @zMessage = 'PSPPriceMarkActualAdjustments, make any modifications'
EXECUTE usp_Message @zMessage
10 DECLARE GasInv2Cursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
    SELECT
        DISTINCT
        (G.AcctgIdentifier)
        FROM
            GasInv AS G,
            Engine AS E
        WHERE
            GasMonth=@GasMonthx AND
            G.PriceType=1 AND
            E.TID=G.TID AND
            (E.PriceStatus<>0 OR E.VolumeStatus<>0)
20 OPEN GasInv2Cursor
    FETCH NEXT FROM GasInv2Cursor INTO @yAcctgIdentifier
    WHILE @@FETCH_STATUS = 0
        BEGIN
            BEGIN TRANSACTION
            /*
            *****
            * Make sure that it is a valid 6 digit
            * invoice number AND the sixth digit
            * contains an 'N' (for noms).
            * Update all if this criteria has been
            * met.
            *****
            */
            SELECT @zInvoiceLength=LEN(RTRIM(LTRIM(@yAcctgIdentifier)))
            IF @zInvoiceLength=6
                BEGIN
                    SELECT @zAcctgIdentifier=RTRIM(LTRIM(@yAcctgIdentifier))
                    SELECT @zLastChar=RIGHT(@zAcctgIdentifier,1)
                    IF @zLastChar='N'
                        BEGIN
                            SELECT @zAcctgIdentifier=LEFT(@zAcctgIdentifier,5)+'A'
                            UPDATE
                                GasInv
                                SET
                                ModifiedByActuals='Y',
                                AcctgIdentifier=@zAcctgIdentifier
                                WHERE
                                    GasMonth=@GasMonthx AND
                                    AcctgIdentifier=@yAcctgIdentifier
50
                        END
                    END
                END
            COMMIT WORK
            FETCH NEXT FROM GasInv2Cursor INTO @yAcctgIdentifier
55
        END
    CLOSE GasInv2Cursor
    DEALLOCATE GasInv2Cursor
    SELECT @zMessage = '**** FINISHED PSPPriceMarkActualAdjustments'
    EXECUTE usp_Message @zMessage
60 END

65 GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

70 SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON

```

```

GO

CREATE PROCEDURE usp_PSPPricePopulateEngine(
5
    @PIDx INTEGER,
    @WhichPricex INTEGER,
    @GasMonthx DATETIME,
    @DBCRx INTEGER
)
AS
BEGIN
10
    /*
    *****
    Name: usp_PSPPricePopulateEngine

15
    Description: Make sure that the price entries are populated on the engine
    master for the respective Engine_Master pricing records. Only those
    engine records with pricetype=1 (STID=8 or STID=9) will be manipulated by
    this process.

20
    Inputs:
    PIDx (unique Package ID)
    WhichPricex(0=Nomination, 1=Actual)
    GasMonthx (gas month calculation applicable toward)
    DBCRx (0=Purchase,1=Sale)

25
    History:

    05/14/99 JAMIE Original Creation

30
    09/27/99 JAMIE Modify this process to check for index baskets AND IF the
    index basket is comprised of daily indices then populate the entire month
    with the basket information.

35
    01/27/00 JAMIE Modified to delete engine records while in the actuals phase
    if the nom information is zero (all nom information, price, volume, amount, etc.).

    *****
    */
    /*
40
    *****
    * Declare all variables and cursors
    * that are needed by this process.
    *****
    */
45
    DECLARE @dPriceEntryType VARCHAR(12)
    DECLARE @dPriceVariable VARCHAR(15)
    DECLARE @tmpDailyIndexCount INTEGER
    DECLARE @tmpUseEffective DATETIME
    DECLARE @tmpEndDate DATETIME
50
    DECLARE @tmpPrevEffective DATETIME
    DECLARE @tmpNextEffectiveDate DATETIME
    DECLARE @tmpNumberDays DATETIME
    DECLARE @tmpVolumeInPeriod DECIMAL(19,2)
    DECLARE @tmpDateToUse DATETIME
55
    DECLARE @tmpEndEffectiveDate DATETIME
    DECLARE @yETID INTEGER
    DECLARE @yEffective DATETIME
    DECLARE @ySTID INTEGER
    DECLARE @yVolLevel INTEGER
60
    DECLARE @yVolGroup INTEGER
    DECLARE @yVarFixed INTEGER
    DECLARE @yMMBtuMCF INTEGER
    DECLARE @yTierThreshold INTEGER

65
    DECLARE @yTID INTEGER

    /*
    *****
70
    * First, Go out and delete entries off the
    * engine database related to this particular

```





```

5      FETCH NEXT FROM Engine_MasterCursor1 INTO
      @yETID,@yEffective,@ySTID,@yVolLevel,@yVolGroup,@yVarFixed,@yMMBtuMCF,@yTierThreshold
      WHILE @@FETCH_STATUS = 0
      BEGIN
10          IF ISNULL((SELECT count(*) FROM Engine_MasterPrice WHERE ETID=@yETID),0) < 1
              BEGIN
                  DELETE
                      FROM
15                      Engine_Master
                      WHERE
                          ETID=@yETID
              END
              FETCH NEXT FROM Engine_MasterCursor1 INTO
              @yETID,@yEffective,@ySTID,@yVolLevel,@yVolGroup,@yVarFixed,@yMMBtuMCF,@yTierThreshold
15          END
          CLOSE Engine_MasterCursor1
          DEALLOCATE Engine_MasterCursor1
          /*
20          * Now loop through the existing
          * Engine_Master records. These are the
          * actual price entries that were input
          * by the user. There can be a record
          * PER DAY or a single record for the
25          * entire month. Only 1 entry PER
          * Effective date will be stored within
          * the Engine table. That is why the
          * tmpPrevEffective is used within the
          * cursor process.
          */
30          SELECT @tmpPrevEffective='01-01-1900'
          DECLARE Engine_MasterCursor2 CURSOR LOCAL STATIC FORWARD_ONLY FOR
          SELECT
35              em.ETID,
              em.Effective,
              em.STID,
              em.VolLevel,
              em.VolGroup,
40              em.VarFixed,
              em.MMBtuMCF,
              em.TierThreshold
          FROM
              Engine_Master AS em
45          WHERE
              (em.PID=@PIDx)
          ORDER BY
              em.Effective
          OPEN Engine_MasterCursor2
50          FETCH NEXT FROM Engine_MasterCursor2 INTO
              @yETID,@yEffective,@ySTID,@yVolLevel,@yVolGroup,@yVarFixed,@yMMBtuMCF,@yTierThreshold
          WHILE @@FETCH_STATUS = 0
          BEGIN
55              /*
              * Check for daily index entries... If they
              * are found then go and calculate the
              * end date for which to insert engine
              * records (automating a daily price
              * entry to the engine for each day of
60              * the month up thru the end of the month
              * or to the next effective date.
              *
              * This will also check for index basket
              * monthly entries. If the index basket
              * contains daily indices then populate
              * each day of the month just as if it
              * was a daily index.
              */
65              *
70              */

```

```

IF @yEffective<>@tmpPrevEffective
    BEGIN
        EXECUTE usp_fLastDay @GasMonthx,@tmpEndDate OUTPUT
        SELECT @tmpDailyIndexCount=0
        DECLARE DailyCheckCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
        SELECT
            p.PriceEntryType,
            emp.PriceVariable
        FROM
            Engine_MasterPrice AS emp,
            PriceComponents AS p
        WHERE
            (emp.ETID=@yETID) AND
            (emp.NomOrActual=@WhichPrce) AND
            (p.PriceTag=emp.PriceTag) AND
            (p.PriceEntryType='Daily IDX' OR
            p.PriceEntryType='Basket IDX')

        OPEN DailyCheckCursor
        FETCH NEXT FROM DailyCheckCursor INTO @dPriceEntryType,@dPriceVariable
        WHILE @@FETCH_STATUS = 0
            BEGIN
                IF (@dPriceEntryType='Daily IDX') AND (@tmpDailyIndexCount=0)
                    BEGIN
                        SELECT @tmpDailyIndexCount=1
                    END
                IF (@dPriceEntryType='Basket IDX') AND (@tmpDailyIndexCount=0)
                    BEGIN
                        SELECT @tmpDailyIndexCount = ISNULL((SELECT
count(*) FROM IndexBasketLink,IndexRef
WHERE (IndexBasketLink.IndexBasketID=@dPriceVariable) AND
(IndexRef.IndexID=IndexBasketLink.IndexID) AND
(IndexRef.DailyIndex=1)),0)
                    END
                FETCH NEXT FROM DailyCheckCursor INTO @dPriceEntryType,@dPriceVariable
            END
        CLOSE DailyCheckCursor
        DEALLOCATE DailyCheckCursor
        IF @tmpDailyIndexCount=0
            BEGIN
                SELECT @tmpEndEffectiveDate=@yEffective
            END
        ELSE
            BEGIN
                SELECT @tmpEndEffectiveDate=ISNULL((SELECT DATEADD(day,-
1,MIN(em.effective)) FROM Engine_Master AS em
WHERE
(em.PID=@PIDx) AND (em.Effective>@yEffective)),@tmpEndDate)
            END
        /*
        *****
        * Now insert the new Engine records.
        * These inserts will be based on a loop
        * between the effective date from the
        * Engine_Master record and the temp
        * field tmpEndEffectiveDate. This will
        * provide for the 'proliferation' of
        * daily index price entries (to the
        * engine). Only insert engine records
        * if there is some sort of volume
        * Nom or PipelineActual on associated
        * with a specific day.
        *
        * If pipeline actuals then inserts do
        * not automatically happen. A check
        * is first made to see if the engine
        * record is already there...
        *****
    
```

```

*/
SELECT @tmpUseEffective=@yEffective
WHILE @tmpUseEffective <= @tmpEndEffectiveDate
BEGIN
5      DECLARE GasInventoryCursor CURSOR LOCAL STATIC
      FORWARD_ONLY FOR
      SELECT
10          DISTINCT
          g.TID
          FROM
          GasInv AS g,
          GasInvD AS gd
          WHERE
15          (gd.TID=g.TID) AND
          (g.PID=@PIDx) AND
          (g.GasMonth=@GasMonthx) AND
          (g.PriceType=1) AND
          (g.DBCR=@DBCRx) AND
          (gd.GasDay>=@tmpUseEffective)
20          AND
          ((gd.Nom<>0))
          or(gd.PipelineActuals<>0))
      OPEN GasInventoryCursor
      FETCH NEXT FROM GasInventoryCursor INTO @yTID
25      WHILE @@FETCH_STATUS = 0
      BEGIN
          IF (SELECT count(*) FROM Engine WHERE TID=@yTID
          AND STID=@ySTID AND
30          Effective=@tmpUseEffective AND VolLevel=0)=0
          BEGIN
              INSERT
              INTO
35          Engine
          (TID,STID,Effective,VolLevel,VolGroup,MMBtuMCF,EM_ETID)
          VALUES
40          (@yTID,@ySTID,@tmpUseEffective,0,@yVolGroup,@yMMBtuMCF,@yETID)
          END
          ELSE
          BEGIN
              UPDATE
45          Engine
              SET
              EM_ETID=@yETID
              WHERE
50          TID=@yTID AND
              STID=@ySTID AND
              Effective=@tmpUseEffective AND
55          VolLevel=0
          END
          FETCH NEXT FROM GasInventoryCursor INTO @yTID
          END
60          CLOSE GasInventoryCursor
          DEALLOCATE GasInventoryCursor
          SELECT @tmpUseEffective=DATEADD(day,1,@tmpUseEffective)
          END
65          END
          SELECT @tmpPrevEffective=@yEffective
          FETCH NEXT FROM Engine_MasterCursor2 INTO
          @yETID,@yEffective,@ySTID,@yVolLevel,@yVolGroup,@yVarFixed,@yMMBtuMCF,@yTierThreshold
          END
70          CLOSE Engine_MasterCursor2

```

```
DEALLOCATE Engine_MasterCursor2
END
```

5

10

```
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
```

15

```
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
```

20

```
CREATE PROCEDURE usp_PSPPriceTransportAll(
    @GasMonthx DATETIME,
    @WhichPricex INTEGER,
    @PKGx INTEGER,
    @EntityCIDx VARCHAR(12)
)
```

25

```
AS
BEGIN
/*
*****
```

Name: usp\_PSPPriceTransportAll

30

Description: This is the main process for calculating the transport costs for all transport entries within the gas inventory database. These are identified in the gas inventory database as PriceType=3 purchase and sale entries (DBCR=0 or 1).

35

The recalculation of costs will only be allowed to occur when the gas month status has been set to the appropriate month

Inputs:

40

GasMonthx - Gas Month to calculate  
WhichPricex - 0=Nominations, 1=Actualizations  
PKGx - either 0 for all or a specific package (deal) number  
EntityCIDx - owning company id

45

History:

06/30/1999 JAMIE Orignal Creation.

50

03/22/2000 JAMIE Modified to move the Divie process to the main module. In addition, modified to handle the new routing table (LegDetail) and build routing records based on the routing rules within this table.

05/24/2000 JAMIE Modified to be aware of entity and product types and services. In addition, modifications made to calculate based on new routing structure...

55

```
*****
*/
/*
```

\* Declare all variables and cursors  
\* that are needed by this process.

60

```
*****
*/
DECLARE @zMessage VARCHAR(254)
DECLARE @zPackage INTEGER
DECLARE @zRecTID INTEGER
65 DECLARE @zDeiTID INTEGER
DECLARE @zVolume DECIMAL(19,2)
DECLARE @zAmount DECIMAL(19,2)
DECLARE @zRate DECIMAL(19,8)
DECLARE @zLastDay DATETIME
```

70

Prepared by JAMIE

```

DECLARE @yTID INTEGER

DECLARE @yGasDay DATETIME
DECLARE @yDelMID INTEGER
5 DECLARE @yRecMID INTEGER
DECLARE @yLID INTEGER
DECLARE @yReceipt DECIMAL(19,2)
DECLARE @yFuelOrOther DECIMAL(19,2)
10 DECLARE @yDelivered DECIMAL(19,2)
DECLARE @yTransportationRate DECIMAL(19,8)
DECLARE @yGatheringRate DECIMAL(19,8)
DECLARE @yFuelPercent DECIMAL(19,8)
DECLARE @yPlantVolReduction DECIMAL(19,8)
15 DECLARE @yKID INTEGER
DECLARE @yRMeterPipe VARCHAR(12)
DECLARE @yRMeterMeter VARCHAR(14)
DECLARE @yDMeterPipe VARCHAR(12)
DECLARE @yDMeterMeter VARCHAR(14)
20 DECLARE @yCID VARCHAR(12)
DECLARE @yKProductID INTEGER
DECLARE @yKServiceID INTEGER
DECLARE @yPurchasePKG INTEGER
/*
*****
25 * First, initialize any existing volumes for
* this month on the gas inventory table
* to a zero. In addition, set the
* appropriate volume amounts and price
* amounts on the 'Engine' table to zeros.
*****
30 */
EXECUTE usp_fLastDay @GasMonthx, @zLastDay OUTPUT
SELECT @zMessage = 'PSPriceTransportAll, Initializing Gas Inventory and Engine Information....'
EXECUTE usp_Message @zMessage
35 DECLARE GasInvCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
    GasInv.TID
FROM
    GasInv,
    K
40 WHERE
    GasInv.GasMonth=@GasMonthx AND
    GasInv.PriceType=3 AND
    K.KID=GasInv.KID AND
    K.EntityCID=@EntityCIDx
45
OPEN GasInvCursor
FETCH NEXT FROM GasInvCursor INTO @yTID
BEGIN TRANSACTION
WHILE @@FETCH_STATUS = 0
50 BEGIN
    IF @WhichPricex=0
        BEGIN
            UPDATE
            55 GasInvD
            SET
                Nom=0,
                EstAct=0
            WHERE
                TID=@yTID AND
                GasDay BETWEEN @GasMonthx AND @zLastDay
60
            UPDATE
            Engine
            SET
                Volume=0,
                Amount=0,
                PriceOrRateNom=0
65
            WHERE
                TID=@yTID
            END
70 IF @WhichPricex=1

```



```

GasInv.GasMonth=@GasMonthx and GasInv.DBCR=0

and GasInv.PriceType=1 and K.EntityCID=@EntityCIDx) AND
LD.GasMonth=@GasMonthx AND
LD.GasDay>=@GasMonthx AND
LD.GasDay<=@zLastDay AND
LD.NomOrActuals=@WhichPrice AND
LD.LID<>0 AND
(LD.TransportationRate<>0 OR LD.GatheringRate<>0 OR LD.FuelPercent<>0 OR
LD.PlantVolReduction<>0)
ORDER BY
LegRef.LID
OPEN LegDetailCursor
FETCH NEXT FROM LegDetailCursor INTO @yGasDay,@yDelMID,@yRecMID,@yLID,@yReceipt,@yFuelOrOther,
@yDelivered,@yTransportationRate,@yGatheringRate,@yFuelPercent,@yPlantVolReduction,@yPurchasePKG,
@yRMeterPipe,@yRMeterMeter,@yDMeterPipe,@yDMeterMeter,@yKID
WHILE @@FETCH_STATUS = 0
BEGIN
BEGIN TRANSACTION
/*
*****
* First check to see if a transportation
* package has been setup for this
* contract/company... If not, then set
* it up... A commit is immediately
* performed here in order to 'preserve'
* the package information (and its
* associated ID).
*****
*/
SELECT @yKProductID=KProductID,@yKServiceID=KServiceID FROM Package where PKG=@yPurchasePKG
SELECT @yCID=CID FROM K WHERE KID = @yKID
SELECT @zPackage=ISNULL((SELECT PKG FROM Package WHERE KID=@yKID AND
PackageGasMonth=@GasMonthx AND
KProductID=@yKProductID AND
KServiceID=@yKServiceID),")
IF (@zPackage="") OR (@zPackage IS NULL)
BEGIN
SELECT @zPackage=(SELECT max(PKG) FROM package) + 1
INSERT
INTO
Package
(PKG,StartDate,EndDate,Description,Package_Create,KID,CID,PackageGasMonth,PackageStatus,Package_CreateBy,
LastUpdateBy,LastUpdateDate,KProductID,KServiceID)
VALUES
(@zPackage,@GasMonthx,@zLastDay,'TRANSPORT
DEAL'.getdate(),@yKID,@yCID,@GasMonthx,'Created',user_name(),
user_name(),getdate(),@yKProductID,@yKServiceID)
END
/*
*****
* At this point we know that a package
* has been created AND we have the
* package identifier. Now build the
* GasInv records IF they do not already
* exist for this package. By adding a
* new inventory item the daily (GasInvD)
* records are automatically created for
* each day of the month.
*****
*/
SELECT @zRecTID=ISNULL((SELECT TID FROM GasInv WHERE GasMonth=@GasMonthx AND
PKG=@zPackage AND PriceType=3 AND KID=@yKID AND
PipeField=@yRMeterPipe AND
Meter=@yRMeterMeter AND PID=@yLID AND DBCR=0),0)
IF @zRecTID=0
BEGIN
INSERT

```

```

                                INTO
                                GasInv

5      (GasMonth,CID,PipeField,Meter,DBCR,KID,PID,PKG,Stat,PriceType,GasInv_UT,
                                Nom,EstAct,GasInv_UU,GasInv_MID,PipelineActuals)
                                VALUES

      (@GasMonthx,@yCID,@yRMeterPipe,@yRMeterMeter,0,@yKID,@yLID,@zPackage,1,3,getdate(),
                                0,0,user_name(),@yRecMID,0)
10     SELECT @zRecTID=ISNULL((SELECT TID FROM GasInv WHERE GasMonth=@GasMonthx
                                AND
                                PKG=@zPackage AND
                                PriceType=3 AND KID=@yKID AND PipeField=@yRMeterPipe AND
                                Meter=@yRMeterMeter AND
15     PID=@yLID AND DBCR=0),0)
                                END

      SELECT @zDeiTID=ISNULL((SELECT TID FROM GasInv WHERE GasMonth=@GasMonthx AND PKG=@zPackage
                                AND
                                PriceType=3 AND KID=@yKID AND
20     PipeField=@yDMeterPipe AND Meter=@yDMeterMeter AND
                                PID=@yLID AND DBCR=1),0)

      IF @zDeiTID=0
      BEGIN
25         INSERT
                                INTO
                                GasInv

      (GasMonth,CID,PipeField,Meter,DBCR,KID,PID,PKG,Stat,PriceType,GasInv_UT,
30         Nom,EstAct,GasInv_UU,GasInv_MID,PipelineActuals)
                                VALUES

      (@GasMonthx,@yCID,@yDMeterPipe,@yDMeterMeter,1,@yKID,@yLID,@zPackage,1,3,getdate(),
                                0,0,user_name(),@yDeiMID,0)
35     SELECT @zDeiTID=ISNULL((SELECT TID FROM GasInv WHERE GasMonth=@GasMonthx
                                AND PKG=@zPackage AND
                                PriceType=3 AND KID=@yKID
                                AND PipeField=@yDMeterPipe AND Meter=@yDMeterMeter AND
                                PID=@yLID AND DBCR=1),0)
40     END

/*
*****
* At this point the gas package and gas
* inventory items have been determined
* (created if needed). Now go and post
* the volume to the GasInvD table.
*****
*/
50     IF @WhichPricex=0
      BEGIN
                                UPDATE
                                GasInvD
                                SET
                                nom=(nom+@yReceipt)
55     WHERE
                                TID=@zRecTID AND
                                GasDay=@yGasDay

                                UPDATE
                                GasInvD
                                SET
                                nom=(nom+@yDelivered)
60     WHERE
                                TID=@zDeiTID AND
                                GasDay=@yGasDay

      END
65     IF @WhichPricex=1
      BEGIN
                                UPDATE
                                GasInvD
                                SET
70

```





```

SET
VolumeAct=(VolumeAct+@zVolume),
5 AmountAct=(AmountAct+@zAmount),
PriceOrRateAct=ROUND(((AmountAct+@zAmount)/(VolumeAct+@zVolume)),4)
WHERE TID=@zRecTID AND
10 Effective=@GasMonthx AND STID=3
END
END
15 END
/*
*****
* Any gathering costs here???
* (engine transaction ID is 4)
*****
*/
20 IF @yGatheringRate<>0
BEGIN
25 SELECT @zRate=@yGatheringRate
SELECT @zVolume=@yReceipt
SELECT @zAmount=ROUND((@zRate*@zVolume),2)
IF ISNULL((SELECT count(*) FROM Engine WHERE TID=@zRecTID AND
Effective=@GasMonthx AND STID=4),0) < 1
30 BEGIN
IF @WhichPricex=0
BEGIN
INSERT
35 INTO Engine
(TID,Effective,STID,VolLevel,VolGroup,MMBtuMCF,Engine_UT,Engine_UU,Volume,Amount,PriceOrRateNom)
VALUES
(@zRecTID,@GasMonthx,4,0,@zPackage,1,getdate(),user_name(),@zVolume,@zAmount,@zRate)
40 END
IF @WhichPricex=1
BEGIN
INSERT
45 INTO Engine
(TID,Effective,STID,VolLevel,VolGroup,MMBtuMCF,Engine_UT,Engine_UU,VolumeAct,AmountAct,PriceOrRateAct)
VALUES
50 (@zRecTID,@GasMonthx,4,0,@zPackage,1,getdate(),user_name(),@zVolume,@zAmount,@zRate)
END
END
ELSE
55 BEGIN
IF @WhichPricex=0
BEGIN
UPDATE
60 Engine
SET
Volume=(Volume+@zVolume),
Amount=(Amount+@zAmount),
PriceOrRateNom=ROUND(((Amount+@zAmount)/(Volume+@zVolume)),4)
WHERE TID=@zRecTID AND
65 Effective=@GasMonthx AND STID=4
END
70 IF @WhichPricex=1

```

```

5      VolumeAct=(VolumeAct+@zVolume),
      AmountAct=(AmountAct+@zAmount),
10     PriceOrRateAct=ROUND(((AmountAct+@zAmount)/(VolumeAct+@zVolume)),4)
                                     WHERE
                                     TID=@zRecTID AND
                                     STID=4
15     Effective=@GasMonthx AND
                                     END
                                     END
                                     END
20     /*
      *****
      * Any fuel costs??
      * (engine transaction ID is 5)
      *****
      */
25     IF @yFuelPercent<>0
         BEGIN
30             SELECT @zRate=@yFuelPercent
               SELECT @zVolume=@yReceipt*@zRate
               IF ISNULL((SELECT count(*) FROM Engine WHERE TID=@zRecTID AND
               Effective=@GasMonthx AND STID=5),0) < 1
                   BEGIN
                   IF @WhichPrice=0
                       BEGIN
                       INSERT
35                             INTO
                                     Engine
                                     (TID,Effective,STID,VolLevel,VolGroup,MMBtuMCF,Engine_UT,Engine_UU,Volume,Amount,PriceOrRateNom)
                                     VALUES
40                             (@zRecTID,@GasMonthx,5,0,@zPackage,1,getdate(),user_name(),@zVolume,0,@zRate)
                                     END
                                     IF @WhichPrice=1
                                       BEGIN
                                       INSERT
45                             INTO
                                     Engine
                                     (TID,Effective,STID,VolLevel,VolGroup,MMBtuMCF,Engine_UT,Engine_UU,VolumeAct,AmountAct,PriceOrRateAct)
                                     VALUES
50                             (@zRecTID,@GasMonthx,5,0,@zPackage,1,getdate(),user_name(),@zVolume,0,@zRate)
                                     END
                                     END
55     ELSE
         BEGIN
         IF @WhichPrice=0
             BEGIN
             UPDATE
60                             Engine
                                     SET
                                     Volume=(Volume+@zVolume)
                                     WHERE
                                     TID=@zRecTID AND
                                     STID=5
65     Effective=@GasMonthx AND
                                     END
                                     IF @WhichPrice=1
                                       BEGIN
70

```

```

UPDATE
Engine
SET
5      VolumeAct=(VolumeAct+@zVolume)
WHERE
TID=@zRecTID AND
10     Effective=@GasMonthx AND
STID=5
END
END
END
/*
*****
* Any pvr??
* (engine transaction ID is 6)
*****
*/
20     IF @yPlantVolReduction<>0
BEGIN
SELECT @zRate=@yPlantVolReduction
SELECT @zVolume=@yReceipt*@zRate
IF ISNULL((SELECT count(*) FROM Engine WHERE TID=@zRecTID AND
25     Effective=@GasMonthx AND STID=6),0) < 1
BEGIN
IF @WhichPricex=0
BEGIN
INSERT
30     INTO
Engine
(TID,Effective,STID,VolLevel,VolGroup,MMBtuMCF,Engine_UT,Engine_UU,Volume,Amount,PriceOrRateNom)
VALUES
35     (@zRecTID,@GasMonthx,6,0,@zPackage,1,getdate(),user_name(),@zVolume,0,@zRate)
END
IF @WhichPricex=1
BEGIN
INSERT
40     INTO
Engine
(TID,Effective,STID,VolLevel,VolGroup,MMBtuMCF,Engine_UT,Engine_UU,VolumeAct,AmountAct,PriceOrRateAct)
VALUES
45     (@zRecTID,@GasMonthx,6,0,@zPackage,1,getdate(),user_name(),@zVolume,0,@zRate)
END
END
ELSE
50     BEGIN
IF @WhichPricex=0
BEGIN
UPDATE
55     Engine
SET
Volume=(Volume+@zVolume)
WHERE
TID=@zRecTID AND
60     Effective=@GasMonthx AND
STID=6
END
IF @WhichPricex=1
BEGIN
UPDATE
65     Engine
SET
VolumeAct=(VolumeAct+@zVolume)
70

```

```

WHERE
TID=@zRecTID AND

Effective=@GasMonthx AND
5
STID=6

END
END
END
10
COMMIT WORK
FETCH NEXT FROM LegDetailCursor INTO @yGasDay,@yDelMID,@yRecMID,@yLID,@yReceipt,@yFuelOrOther,
@yDelivered,@yTransportationRate,@yGatheringRate,@yFuelPercent,@yPlantVolReduction,@yPurchasePKG,
@yRMeterPipe,@yRMeterMeter,@yDMeterPipe,@yDMeterMeter,@yKID
15
END
CLOSE LegDetailCursor
DEALLOCATE LegDetailCursor
SELECT @zMessage = 'PSPriceTranportAll, Finished....'
EXECUTE usp_Message @zMessage
20
END

25

30
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
35
GO

CREATE PROCEDURE usp_PSPPriceWASPCalc(
@GasMonthx DATETIME,
@WhichPricex INTEGER,
40
@EntityCIDx VARCHAR(12)
)
AS
BEGIN
/*
45
*****
Name: usp_PSPPriceWaspCalc

Description: This is the main process for calculating the WASP price information for
50
a particular gas month and type of price (nom's or pipeline actuals). The end result
of this process is to post updated price amounts within the engine. The WASP calculation
has also been modified to perform the calculations pooled by entity (passed to this
routine), within entity by product (Oil/Gas/Liquids) and service (marketing/passthrough/etc.).

Inputs:
55
GasMonthx (Gas Month to calculate),
WhichPricex (0=Nominations, 1=Actualizations)
EntityCIDx (which company is being calculated (owner company))

60
History:

06/22/99 JAMIE Original creation

07/22/99 JAMIE Include 3rd party deals within the
65
calcaution process. They WILL NOT BE included within the WASP calculations
and will be treated the same as "Dedicated" (sanctioned sales) deals. This
will ensure they are not affecting any other pricing component.

05/01/00 JAMIE Modifications to utilize the new routing structure as part of the
70
calculation. A check is made to see if any 'routing' entries are made to the new

```

structures (for the month). If so, then this routine will invoke the new routines.  
Otherwise, the old routines are invoked.

05/24/2000 JAMIE Modifications to add the EntityCIDx component to the calculation (passed to this routine by the calling program). In addition, modifications were made to calculate all WASP pricing within each unique product and service.

08/25/2000 JAMIE Modified to remove all of the old routing routines.

```

5
10
15
20
25
30
35
40
45
50
55
60
65
70

*****
*/
/*
*****
* Declare all variables and cursors
* that are needed by this process.
*****
*/
DECLARE @zMessage VARCHAR(254)
DECLARE @yKProductID INTEGER
DECLARE @yKProductName VARCHAR(50)

DECLARE @yKServiceID INTEGER
DECLARE @yKServiceName VARCHAR(50)

DECLARE ProductTypesCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
    SELECT
        ProcessingCodeID,
        ShortDescription
    FROM
        SEProcessingCodes WHERE CodeType='CONTRPRODS'
    ORDER BY
        ProcessingCodeID

SELECT @zMessage = 'PSPriceWASPCalc, Running for Entity '+@EntityCIDx+'...'
EXECUTE usp_Message @zMessage
/*
*****
* Outermost loop is on product type...
*****
*/
OPEN ProductTypesCursor
FETCH NEXT FROM ProductTypesCursor INTO @yKProductID,@yKProductName
WHILE @@FETCH_STATUS = 0
    BEGIN
        SELECT @zMessage = 'PSPriceWASPCalc, Running for Product '+@yKProductName+'...'
        EXECUTE usp_Message @zMessage
        /*
        *****
        * Next loop is on service type...
        *****
        */
        DECLARE ServiceTypesCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
            SELECT
                ProcessingCodeID,
                ShortDescription
            FROM
                SEProcessingCodes WHERE CodeType='CONTRSRVS'
            ORDER BY
                ProcessingCodeID

        OPEN ServiceTypesCursor
        FETCH NEXT FROM ServiceTypesCursor INTO @yKServiceID,@yKServiceName
        WHILE @@FETCH_STATUS = 0
            BEGIN
                BEGIN TRANSACTION
                SELECT @zMessage = 'PSPriceWASPCalc, Running for Service '+@yKServiceName+'...'
                EXECUTE usp_Message @zMessage
                /*
                *****
                * Now populate the waspresolvedrouting
                * tables with all sales and transport

```

```

* totals that were linked to purchases
* within the route process.
*****
*/
5      EXECUTE usp_PSPPriceWASPCalcSalesN
      @GasMonthx,@WhichPricex,@EntityCIDx,@yKProductID,@yKServiceID
      COMMIT WORK
      FETCH NEXT FROM ServiceTypesCursor INTO @yKServiceID,@yKServiceName

10      END
      CLOSE ServiceTypesCursor
      DEALLOCATE ServiceTypesCursor
      FETCH NEXT FROM ProductTypesCursor INTO @yKProductID,@yKProductName

      END
      CLOSE ProductTypesCursor
      DEALLOCATE ProductTypesCursor
15      /*
      *****
      * Finished. A later routine will take
      * the well prices to the actual engine
      * table (PSPPriceAll for Purchases). A
      * commit takes place right here just to
      * make sure we limit our recovery window
      * if problems later.. Also, don't want
      * to hold locks for an extended amount
      * of time.
      *****
      */
      SELECT @zMessage = 'PSPPriceWASPCalc, Finished with Entity '+@EntityCIDx+'...'
      EXECUTE usp_Message @zMessage
30      END

35      GO
      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

40      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

      CREATE PROCEDURE usp_PSPPriceWASPCalcResolveDriver(

45      @GasMonthx DATETIME,
      @WhichPricex INTEGER,
      @EntityCIDx VARCHAR(12),
      @IncludeInWaspx VARCHAR(10)
      )

      AS
      BEGIN
      /*
      *****
      Name: usp_PSPPriceWaspCalcResolveDriver

55      Description: This is the main process that controls the 'walking back' (resolving)
      of sales amounts back to their respective purchase deals.

      Inputs:

60      GasMonthx (Gas Month to calculate),
      WhichPricex (0=Nominations, 1=Actualizations)
      EntityCIDx (which company is being calculated (owner company))
      IncludeInWaspx ('Common','None' or 'Dedicated')

65      History:

      07/28/2000 JAMIE Original creation

      *****
70      */

```

```

/*
*****
* Declare all variables and cursors
* that are needed by this process.
*****
*/
5  DECLARE @zMessage VARCHAR(254)
    DECLARE @yKProductID INTEGER
    DECLARE @yKProductName VARCHAR(50)

10  DECLARE @yKServiceID INTEGER
    DECLARE @yKServiceName VARCHAR(50)

    DECLARE ProductTypesCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
15  SELECT
        ProcessingCodeID,
        ShortDescription
    FROM
        SEProcessingCodes
20  WHERE
        CodeType='CONTRPRODS'
    ORDER BY
        ProcessingCodeID

25  SELECT @zMessage = 'PSPriceWASPCalcResloveDriver, Running for Entity '+@EntityCIDx+',Pool '+@IncludeInWaspx+'...'
    EXECUTE usp_Message @zMessage
/*
*****
* Outermost loop is on product type...
*****
*/
30  OPEN ProductTypesCursor
    FETCH NEXT FROM ProductTypesCursor INTO @yKProductID,@yKProductName
    WHILE @@FETCH_STATUS = 0
35  BEGIN
        SELECT @zMessage = 'PSPriceWASPCalcResloveDriver, Running for Product '+@yKProductName+'...'
        EXECUTE usp_Message @zMessage
/*
*****
40  * Next loop is on service type...
*****
*/
        DECLARE ServiceTypesCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
        SELECT
            ProcessingCodeID,
            ShortDescription
        FROM
            SEProcessingCodes
50  WHERE
            CodeType='CONTRSRVS'
        ORDER BY
            ProcessingCodeID

        OPEN ServiceTypesCursor
        FETCH NEXT FROM ServiceTypesCursor INTO @yKServiceID,@yKServiceName
55  WHILE @@FETCH_STATUS = 0
        BEGIN
            BEGIN TRANSACTION
            SELECT @zMessage = 'PSPriceWASPCalcResloveDriver, Running for Service
            '+@yKServiceName+'...'
            EXECUTE usp_Message @zMessage
            EXECUTE usp_PSPPriceWASPCalcResolveN
            @GasMonthx,@WhichPriceX,@EntityCIDx,@yKProductID,@yKServiceID,@IncludeInWaspx
            COMMIT WORK
            FETCH NEXT FROM ServiceTypesCursor INTO @yKServiceID,@yKServiceName
65  END
        CLOSE ServiceTypesCursor
        DEALLOCATE ServiceTypesCursor
        FETCH NEXT FROM ProductTypesCursor INTO @yKProductID,@yKProductName

70  END
    CLOSE ProductTypesCursor

```



```

DEALLOCATE ProductTypesCursor
SELECT @zMessage = 'PSPriceWASPCalcResolveDriver, Finished with Entity '+@EntityCIDx+',Pool '+@IncludeInWaspX+'...'
EXECUTE usp_Message @zMessage
END

5

10  GO
    SET QUOTED_IDENTIFIER OFF  SET ANSI_NULLS ON
    GO

    SET QUOTED_IDENTIFIER ON  SET ANSI_NULLS ON
15  GO

    CREATE PROCEDURE usp_PSPriceWASPCalcResolveN(

20                                     @GasMonthx DATETIME,
                                     @WhichPricex INTEGER,
                                     @EntityCIDx VARCHAR(12),
                                     @KProductIDx INTEGER,
                                     @KServiceIDx INTEGER,
                                     @IncludeInWaspX VARCHAR(10)
                                     )

25  AS
    BEGIN
/*
*****
30  Name: usp_PSPriceWASPCalcResolveN

    Description: This particular stored procedure is responsible for looping through and
    chasing all volumes back from purchase points back to the respective meter locations
    that originally contained the purchase volumes.

35  History:

    05/01/2000 JAMIE Original Creation.

    05/24/2000 JAMIE Modified to include the entity, product and service.

40  07/28/2000 JAMIE Modified to include the IncludeInWaspX parameter so that
    the calculations can be run in a specified WASP order...

    08/17/2000 JAMIE Removed the call to PSWASPCalcPostPurchaseN. This
45  was done based on all wasp calculation entries being setup in the
    WASPResolvedRouting table.

*****
50  */
/*
*****
    * Declare all variables and cursors
    * that are needed by this process.
*****

55  */
    DECLARE @zMessage VARCHAR(254)

    SELECT @zMessage = 'PSPriceWASPCalcResolveN Has Started for pool '+@IncludeInWaspX+'...'
    EXECUTE usp_Message @zMessage
60  /*
*****
    * Now invoke the routine that will chase
    * the volumes, prices and amounts back to
    * the purchase points.
*****
65  */
    SELECT @zMessage = 'PSPriceWASPCalcResolveN, Tracing back all gas (resolving sales)...'
    EXECUTE usp_Message @zMessage
    EXECUTE usp_PSPriceWASPCalcResolveSalesN @GasMonthx,@WhichPricex,@EntityCIDx,@KProductIDx,@KServiceIDx,@IncludeInWaspX
70  /*

```



```

* that are needed by this process.
*****
*/
5  DECLARE @zTempLeft DECIMAL(19,2)
    DECLARE @zRound INTEGER
    DECLARE @zMessage VARCHAR(254)
    DECLARE @zAnyUpdates VARCHAR(1)
    DECLARE @zResolvedReceipt DECIMAL(19,2)
10  DECLARE @zResolvedReceiptAmt DECIMAL(19,2)
    DECLARE @zResolvedDelivered DECIMAL(19,2)
    DECLARE @zResolvedDeliveredAmt DECIMAL(19,2)
    DECLARE @zReceiptLeft DECIMAL(19,2)
    DECLARE @zReceiptAmtLeft DECIMAL(19,2)
15  DECLARE @zPercentToApply DECIMAL(19,6)
    DECLARE @zSumDelivered DECIMAL(19,2)
    DECLARE @zPercentReceipt DECIMAL(19,6)
    DECLARE @zUseVolume DECIMAL(19,2)
    DECLARE @zUseAmount DECIMAL(19,2)
    DECLARE @zAmount DECIMAL(19,2)
20  DECLARE @zNewAmount DECIMAL(19,2)
    DECLARE @zNewPrice DECIMAL(19,6)
    DECLARE @zTempVolume DECIMAL(19,2)
    DECLARE @zTempAmount DECIMAL(19,2)
    DECLARE @zVolumeDispersed DECIMAL(19,2)
25  DECLARE @zAmountDispersed DECIMAL(19,2)
    DECLARE @zDifference DECIMAL(19,2)
    DECLARE @zResolvedIndicator VARCHAR(1)
    DECLARE @zLinkUpdate VARCHAR(1)
    DECLARE @zDeliveredLeft DECIMAL(19,2)
30
    DECLARE @yDelMID INTEGER
    DECLARE @yRecMID INTEGER
    DECLARE @yReceipt DECIMAL(19,2)
    DECLARE @yFuelOrOther DECIMAL(19,2)
35  DECLARE @yDelivered DECIMAL(19,2)
    DECLARE @yTransportAmount DECIMAL(19,2)
    DECLARE @yGatheringAmount DECIMAL(19,2)
    DECLARE @yAmount DECIMAL(19,2)
    DECLARE @yDedicatedPurchasePKG INTEGER
40  DECLARE @yPrice DECIMAL(19,6)
    DECLARE @yResolvedReceipt DECIMAL(19,2)
    DECLARE @yIncludeInWasp VARCHAR(10)
    DECLARE @yResolvedDelivered DECIMAL(19,2)
    DECLARE @yResolvedID INTEGER
45  DECLARE @yResolvedReceiptAmt DECIMAL(19,2)
    DECLARE @yResolvedDeliveredAmt DECIMAL(19,2)

    DECLARE @iDelMID INTEGER
    DECLARE @iRecMID INTEGER
50  DECLARE @iReceipt DECIMAL(19,2)
    DECLARE @iFuelOrOther DECIMAL(19,2)
    DECLARE @iDelivered DECIMAL(19,2)
    DECLARE @iTransportAmount DECIMAL(19,2)
    DECLARE @iGatheringAmount DECIMAL(19,2)
55  DECLARE @iAmount DECIMAL(19,2)
    DECLARE @iDedicatedPurchasePKG INTEGER
    DECLARE @iPrice DECIMAL(15,6)
    DECLARE @iResolvedReceipt DECIMAL(19,2)
    DECLARE @iIncludeInWasp VARCHAR(10)
60  DECLARE @iResolvedDelivered DECIMAL(19,2)
    DECLARE @iResolvedID INTEGER
    DECLARE @iResolvedReceiptAmt DECIMAL(19,2)
    DECLARE @iResolvedDeliveredAmt DECIMAL(19,2)

65  /*
    *****
    * This loop will iterate until no more
    * gas can be distributed to various
    * sales meters within the
70  * WaspResolvedRouting table.

```

```

*****
*/
SELECT @zRound = ISNULL((SELECT TypeLimit FROM SEProcessingCodes WHERE ProcessingCodeID = @KProductIDx),0)
SELECT @zMessage = 'PSPPriceWASPCalcResolveSalesN, starting iterative process...'
EXECUTE usp_Message @zMessage
SalesMeterIterationLoop:
    BEGIN
        SELECT @zAnyUpdates='N'
        DECLARE WASPResolvedSalesCursor CURSOR LOCAL DYNAMIC FORWARD_ONLY FOR
        SELECT
            DelMID,
            RecMID,
            Receipt,
            FuelOrOther,
            Delivered,
            TransportAmount,
            GatheringAmount,
            Amount,
            DedicatedPurchasePKG,
            Price,
            ResolvedReceipt,
            IncludeInWasp,
            ResolvedDelivered,
            ResolvedID,
            ResolvedReceiptAmt,
            ResolvedDeliveredAmt
        FROM
            WASPResolvedRouting
        WHERE
            (GasMonth=@GasMonthx AND
            NomOrActual=@WhichPricex AND
            IncludeInWasp=@IncludeInWaspx AND
            ResolvedIndicator<>'Y' AND
            ResolvedReceipt<>Receipt AND
            ResolvedType<>'P' AND
            Amount<>0 AND
            Price<>0 AND
            Delivered<>0 AND
            EntityCID=@EntityCIDx AND
            KProductID=@KProductIDx AND
            KServiceID=@KServiceIDx)
        ORDER BY
            IncludeInWasp,
            DedicatedPurchasePKG,
            DelMID
        OPEN WASPResolvedSalesCursor
        FETCH NEXT FROM WASPResolvedSalesCursor INTO @yDelMID,
            @yRecMID,@yReceipt,@yFuelOrOther,@yDelivered,@yTransportAmount,@yGatheringAmount,@yAmount,@yDedicatedPurchaseP
            KG,
            @yPrice,@yResolvedReceipt,@yIncludeInWasp,@yResolvedDelivered,@yResolvedID,
            @yResolvedReceiptAmt,@yResolvedDeliveredAmt
        WHILE @@FETCH_STATUS = 0
        BEGIN
            /*
            *****
            * Loop through each of the legs that
            * have the delivery meter the same as
            * the receipt meter for the given
            * month and class...
            *****
            */
            SELECT @zVolumeDispersed=0
            SELECT @zAmountDispersed=0
            SELECT @zLinkUpdate='N'
            DECLARE WASPResolvedLinkCursor CURSOR LOCAL DYNAMIC FORWARD_ONLY FOR
            SELECT
                DelMID,
                RecMID,

```

```

5      Receipt,
      FuelOrOther,
      Delivered,
      TransportAmount,
      GatheringAmount,
      Amount,
      DedicatedPurchasePKG,
      Price,
10     ResolvedReceipt,
      IncludeInWasp,
      ResolvedDelivered,
      ResolvedID,
      ResolvedReceiptAmt,
      ResolvedDeliveredAmt
15     FROM
      WASPResolvedRouting
      WHERE
      (GasMonth=@GasMonthx AND
      NormOrActual=@WhichPrice AND
      IncludeInWasp=@yIncludeInWasp AND
      DedicatedPurchasePKG=@yDedicatedPurchasePKG AND
      DelMid=@yRecMid AND
      ResolvedID<>@yResolvedID AND
      EntityCID=@EntityCIDx AND
      KProductID=@KProductIDx AND
      KServiceID=@KServiceIDx AND
      ResolvedType<>'S' AND
      ResolvedDelivered<Delivered)
20
      OPEN WASPResolvedLinkCursor
      FETCH NEXT FROM WASPResolvedLinkCursor INTO @DelMid,
30     @RecMid,@Receipt,@FuelOrOther,@Delivered,@TransportAmount,@GatheringAmount,@Amount,@DedicatedPurchasePKG,
      @Price,@ResolvedReceipt,@IncludeInWasp,@ResolvedDelivered,@ResolvedID,
      @ResolvedReceiptAmt,@ResolvedDeliveredAmt
35     WHILE @@FETCH_STATUS = 0
      BEGIN
      /*
      *****
      * Determine the total volume of gas
      * where this gas came from (based on
      * delivery meterid being equal to
      * the receipt meter id and all WASP
      * pool and dedicated purchase package
      * information being identical).
      *
      * The zUseVolume field contains the
      * amount of volume from the delivery
      * meter to apply backward.
      *
      * The zUseAmount field contains the
      * dollar amount from the delivery meter
      * that should be applied backward.
      *
      * The zPercentToApply field contains the
      * volume weighted percentage to use.
      *****
      */
      SELECT @zResolvedReceipt=@yResolvedReceipt
      SELECT @zResolvedReceiptAmt=@yResolvedReceiptAmt
      SELECT @zPercentReceipt=1
60
      /* Determine total receipt volume available to apply*/
      /* This is based on percentage of delivered that may have*/
      /* already been applied. In addition, determine the*/
      /* amount that is available...*/
      IF (@yDelivered<>0) AND (@yResolvedDelivered<>0) AND
70     (@yDelivered>@yResolvedDelivered)
      BEGIN

```



\*\*\*\*\*

\* /

11

SELECT

SELECT

SELECT

IF (@zResolvedDeliveredAmt<>0) AND (@lReceipt<>0)

BEGIN

END

ELSE

BEGIN

END

UPDATE

WASPResolvedRouting  
SET

ResolvedDeliveredAmt=@zResolvedDeliveredAmt,

Amount=@zNewAmount,

Price=@zNewPrice  
WHERE

```
SELECT @zAnyUpdates='Y'
```

```
SELECT @zLinkUpdate='Y'
```

END

FETCH NEXT FROM WASPResolvedLinkCursor INTO @IDelMID,

@|RecMID,@|Receipt,@|FuelOrOther,@|Delivered,@|TransportAmount,@|GatheringAmount,@|Amount,@|DedicatedPurchasePKG,

@|Price,@|ResolvedReceipt,@|IncludeInWasp,@|ResolvedDelivered,@|ResolvedID,

@lResolvedReceiptAmt,@lResolvedDeliveredAmt

END

CLOSE WASPResolvedLinkCursor

DEALLOCATE WASPResolvedLinkCursor

7\*

\*\*\*\*\*

- \* After looping through all of the
- \* meters that can possibly associate
- \* with this sale, go ahead and update
- \* the original sales meter information
- \* to reflect the total volume
- \* passed on to subsequent meters.

★★

\*/

Update="

UPDATE

WASPResolvedRouting

SET

ResolvedReceipt=ResolvedReceipt+@zVolumeDispersed,

ResolvedReceiptAmt=ResolvedReceiptAmt+@zAmountDispersed,

```

WHERE
    ResolvedIndicator='Y'
    ResolvedID=@yResolvedID
END
5      FETCH NEXT FROM WASPResolvedSalesCursor INTO @yDelMID,
    @yRecMID,@yReceipt,@yFuelOrOther,@yDelivered,@yTransportAmount,@yGatheringAmount,@yAmount,@yDedicatedPurchaseP
    KG,
10     @yPrice,@yResolvedReceipt,@yIncludeInWasp,@yResolvedDelivered,@yResolvedID,
    @yResolvedReceiptAmt,@yResolvedDeliveredAmt
    END
    CLOSE WASPResolvedSalesCursor
15     DEALLOCATE WASPResolvedSalesCursor
    /*
    *****
    * If no more volume was chased backward
    * then get out of the iterative loop.
20     * At this point all volumes have been
    * sent back to all meters and weighted
    * costs should be available at each.
    *****
    */
25     IF @zAnyUpdates<>'N'
        BEGIN
            GOTO SalesMeterIterationLoop
        END
    END
30 END

35

40

45     GO
    SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

50     SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

    CREATE PROCEDURE usp_PSPPriceWASPCalcSalesN(
        @GasMonthx DATETIME,
        @WhichPriceX INTEGER,
        @EntityCIDx VARCHAR(12),
        @KProductIDx INTEGER,
        @KServiceIDx INTEGER
55     )
    AS
    BEGIN
    /*
    *****
60     Name: usp_PSPPriceWASPCalcSalesN

    Description: This process will build all of the meters within the
    WASPResolvedRouting table for all of the deals within the gas month. Only
    those meters that had actual transport volume will be moved. A
65     different routine will iterate through the volumes posted here in order
    to calculate all of the prices.

    Inputs:
70     GasMonthx - Gas Month

```



WhichPriceX - 0=Nominations, 1=Actuals  
 EntityCIDx - Entity being calculated (owning company)  
 KProductIDx - Product type being calculated.  
 KServiceIDx - Service type being calculated.

5

History:

05/02/2000 JAMIE Original Creation.

10

05/24/2000 JAMIE Modified to add the Entity, product and service types to be parameters to this procedure. This will ensure that gas, oil, etc amongst the various types of companies (entities) being serviced do not get intermixed.

15

07/20/2000 JAMIE Modified in order to initialize new resolved amount fields for all records that get added to the WASPResolvedRouting table.

20

08/18/2000 JAMIE Modified to go ahead and put the actual purchase point items on the table to include them in the calculations. At this point the WASPResolvedRouting table will contain ALL entries (see 'Type' field on the database). Purchase points thru Sales points.

10/03/2000 JAMIE Modified to incorporate the 'Other Cost' amount totals into the Resolved table total calculation.

25

01/09/2000 JAMIE For consistency. Modified the rounding (on the prices to two decimal places (for all months previous to December 2000).

\*\*\*\*\*

\*/

30

/\*

\*\*\*\*\*

\* Declare all variables and cursors

\* that are needed by this process.

\*\*\*\*\*

35

\*/

DECLARE @zMessage VARCHAR(254)

DECLARE @zIncludeInWasp VARCHAR(10)

DECLARE @zVolume DECIMAL(19,2)

40

DECLARE @zType VARCHAR(1)

DECLARE @zPrice DECIMAL(19,6)

DECLARE @zAmount DECIMAL(19,2)

DECLARE @zOtherCostAmount DECIMAL(19,2)

DECLARE @zDedicatedPurchasePKG INTEGER

DECLARE @zGatheringAmount DECIMAL(19,2)

45

DECLARE @zTransportationAmount DECIMAL(15,2)

DECLARE @zAmountWithCosts DECIMAL(19,2)

DECLARE @zLastDay DATETIME

DECLARE @zPrevSalePKG INTEGER

DECLARE @zPrevSaleMID INTEGER

50

DECLARE @yPurchasePKG INTEGER

DECLARE @yRecMID INTEGER

DECLARE @yDelMID INTEGER

DECLARE @ySalesPKG INTEGER

55

DECLARE @yReceipt DECIMAL(19,2)

DECLARE @yLDIDPrev INTEGER

DECLARE @yGasDay DATETIME

DECLARE @yPurchasePointTID INTEGER

DECLARE @yStep INTEGER

60

DECLARE @xPriceOrRateNom DECIMAL(19,6)

DECLARE @xPriceOrRateAct DECIMAL(19,6)

DECLARE @qPurchasePKG INTEGER

65

DECLARE @qLID INTEGER

DECLARE @qRecMID INTEGER

DECLARE @qDelMID INTEGER

DECLARE @qReceipt DECIMAL(19,2)

DECLARE @qDelivered DECIMAL(19,2)

70

DECLARE @qFuelOrOther DECIMAL(19,2)

```

DECLARE @qTransport DECIMAL(19,2)
DECLARE @qGathering DECIMAL(19,2)

```

```

5      SELECT @zMessage = 'PSPriceWASPCalcSalesN Has Started...'
      EXECUTE usp_Message @zMessage
      /*
      *****
10     * Delete any pre-existing resolved entries
      * that may exist in the database... These
      * records are the ones related to the
      * entity, product and service types.
      *****
15     */
      SELECT @zMessage = 'PSPriceWASPCalcSalesN, Deleting existing entries off WASPResolvedRouting...'
      EXECUTE usp_Message @zMessage
      DELETE
          FROM
20             WASPResolvedRouting
          WHERE
              GasMonth=@GasMonthx AND
              NomOrActual=@WhichPricex AND
              EntityCID=@EntityCIDx AND
25             KProductID=@KProductIDx AND
              KServiceID=@KServiceIDx
      SELECT @zMessage = 'PSPriceWASPCalcSalesN, Finished deleting existing entries off WASPResolvedRouting...'
      EXECUTE usp_Message @zMessage
      /*
30     *****
      * Initially loop through the sales links
      * found on the legdetail table (high level
      * loop)... Only looping through those
      * items that are associated with this
35     * entity and product/service type.
      *****
      */
      SELECT @zPrevSalePKG=0
      SELECT @zPrevSaleMID=0
40     EXECUTE usp_fLastDay @GasMonthx,@zLastDay OUTPUT
      DECLARE LegDetailSaleCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
          SELECT
              PurchasePKG,
              RecMID,
45             DelMID,
              SalesPKG,
              Receipt,
              LDIDPrev,
              GasDay,
50             PurchasePointTID,
              Step
          FROM
              LegDetail
          WHERE
55             LegDetail.PurchasePointTID IN (SELECT DISTINCT TID FROM GasInv, Package, K WHERE
              GasInv.PKG=Package.PKG AND k.kid = Package.KID AND GasInv.GasMonth=@GasMonthx AND GasInv.DBCR=0 AND GasInv.PriceType=1
              and Package.KProductID = @KProductIDx and Package.KServiceID = @KServiceIDx AND K.EntityCID = @EntityCIDx) AND
              LegDetail.GasDay>=@GasMonthx AND
              LegDetail.GasDay<=@zLastDay AND
60             LegDetail.GasMonth=@GasMonthx AND
              LegDetail.NomOrActuals=@WhichPricex AND
              LegDetail.LID=0 AND
              LegDetail.PurchasePKG>0 AND
              LegDetail.SalesPKG>0
65             ORDER BY
              LegDetail.SalesPKG,
              LegDetail.RecMID,
              LegDetail.PurchasePointTID,
              LegDetail.GasDay,
70             LegDetail.PurchasePKG

```

```

SELECT @zMessage = 'PSPPriceWASPCalcSalesN, opening main sales cursor (LegDetailSaleCursor)...'
EXECUTE usp_Message @zMessage
OPEN LegDetailSaleCursor
SELECT @zMessage = 'PSPPriceWASPCalcSalesN, finished opening main sales cursor (LegDetailSaleCursor)...'
EXECUTE usp_Message @zMessage
5  FETCH NEXT FROM LegDetailSaleCursor INTO @yPurchasePKG,
    @yRecMID,@yDelMID,@ySalesPKG,@yReceipt,@yLDIDPrev,@yGasDay,@yPurchasePointTID,@yStep
WHILE @@FETCH_STATUS = 0
    BEGIN
10         /*
            *****
            * Determine the classification of the
            * purchase deal attached to this sales
            * volume right here...
            *****
15         */
        EXECUTE usp_fGetWasIndicator @yPurchasePKG,@zIncludeInWasp OUTPUT
        IF @zIncludeInWasp='Common'
            BEGIN
20                 SELECT @zDedicatedPurchasePKG=0
            END
        ELSE
            BEGIN
25                 SELECT @zDedicatedPurchasePKG=@yPurchasePKG
            END
        /*
            *****
            * If sales package has changed OR
            * the meter within a sales package
            * has changed then (amongst other
            * things) sum up any/all other costs
            * for the meter (this ensures that only
            * one instance of other cost entries
            * are totaled for a given sales deal
            * at a given meter).
            *****
30         */
        SELECT @zOtherCostAmount=0
        IF (@ySalesPKG<>@zPrevSalePKG) OR (@yRecMID<>@zPrevSaleMID)
            BEGIN
40                 SELECT @zPrevSalePKG=@ySalesPKG
                SELECT @zPrevSaleMID=@yRecMID
                IF @WhichPrice=0
                    BEGIN
45                        SELECT @zOtherCostAmount=ISNULL((SELECT
                            SUM(Engine.Amount) FROM GasInv,Engine WHERE GasInv.PKG=@ySalesPKG
                                AND GasInv.GasMonth=@GasMonthx AND
                                GasInv.PriceType=1 AND Engine.TID=GasInv.TID AND GasInv.GasInv_MID=@yRecMID AND Engine.STID<>9),0)
                    END
50                IF @WhichPrice=1
                    BEGIN
                        SELECT @zOtherCostAmount=ISNULL((SELECT
                            SUM(Engine.AmountAct) FROM GasInv,Engine WHERE GasInv.PKG=@ySalesPKG
                                AND GasInv.GasMonth=@GasMonthx AND
55                        GasInv.PriceType=1 AND Engine.TID=GasInv.TID AND GasInv.GasInv_MID=@yRecMID AND Engine.STID<>9),0)
                    END
                END
            END
        /*
            *****
            * Calculate the price and amount for the
            * sales item here (utilizing the Engine
            * calculation). The beginning volume is
            * the amount pulled off the sales association
            * on the database... Break from this
            * loop once the first price record has been
            * obtained (for this day)...
            *****
60         */
        SELECT @zPrice=0
        SELECT @zAmount=0
65
70

```

```

SELECT @zVolume=0
DECLARE EngineCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
5      Engine.PriceOrRateNom,
      Engine.PriceOrRateAct
FROM
      GasInv,
      Engine
WHERE
10     GasInv.PKG=@ySalesPKG AND
      GasInv.PriceType=1 AND
      Engine.TID=GasInv.TID AND
      GasInv.GasInv_MID=@yRecMID AND
      Engine.Effective<=@yGasDay AND
15     Engine.STID=9
ORDER BY
      Engine.Effective DESC
OPEN EngineCursor
FETCH NEXT FROM EngineCursor INTO @xPriceOrRateNom,@xPriceOrRateAct
20 IF @@FETCH_STATUS = 0
    BEGIN
        IF @zPrice=0
            BEGIN
                IF @WhichPrice=0
                    BEGIN
                        IF @GasMonthx < '12/01/2000'
                            BEGIN
                                SELECT
30      @zPrice=ROUND(@xPriceOrRateNom,2)
                                END
                            ELSE
                                BEGIN
                                    SELECT
35      @zPrice=ROUND(@xPriceOrRateNom,4)
                                    END
                                END
                            ELSE
                                BEGIN
                                    IF @GasMonthx < '12/01/2000'
                                        BEGIN
                                            SELECT
40      @zPrice=ROUND(@xPriceOrRateAct,2)
                                            END
                                        ELSE
                                            BEGIN
                                                SELECT
45      @zPrice=ROUND(@xPriceOrRateAct,4)
                                                END
                                            END
                                        END
                                    END
                                SELECT @zVolume=@yReceipt
                                SELECT @zAmount=(@zVolume*@zPrice)
                                END
                            END
                        CLOSE EngineCursor
                        DEALLOCATE EngineCursor
55      /*
      *****
      * Sum the other cost entry on the
      * amount brought back for the
      * production volume amount. The
      * other cost entry will only have a
      * non zero value the first time a
      * sales meter is encountered. Make
      * sure to reset the price entry.
      *****
      */
      IF @zOtherCostAmount<>0
          BEGIN
70      SELECT @zAmount=@zAmount+@zOtherCostAmount
          IF (@zAmount<>0) AND (@zVolume<>0)
    
```

```

                                BEGIN
                                SELECT @zPrice=ROUND((@zAmount/@zVolume),4)
                                END
                                END
5      /*
      *****
      * Post a sales entry into the resolved
      * table here.. (LID=0)... This will be
      * the starting point once the routing
      * iterative process begins...
      *****
      */
      IF ISNULL((SELECT count(*) FROM WASPResolvedRouting WHERE GasMonth=@GasMonthx AND
15      RecMID=@yRecMID AND DelMID=@yDelMID AND
      NomOrActual=@WhichPricex AND IncludeInWasp=@zIncludeInWASP AND
      DedicatedPurchasePKG=@zDedicatedPurchasePKG AND
      ResolvedType='S' AND LID=0 AND EntityCID=@EntityCIDx AND
      KProductID=@KProductIDx AND KServiceID=@KServiceIDx),0) < 1
20      BEGIN
      INSERT
      INTO
      WASPResolvedRouting
      (GasMonth,RecMID,DelMID,NomOrActual,Receipt,FuelOrOther,Delivered,TransportAmount,GatheringAmount,Amount,
25      IncludeInWasp,DedicatedPurchasePKG,Price,ResolvedReceipt,ResolvedIndicator,ResolvedType,LID,ResolvedDelivered,
      EntityCID,KProductID,KServiceID,ResolvedReceiptAmt,ResolvedDeliveredAmt)
      VALUES
30      (@GasMonthx,@yRecMID,@yDelMID,@WhichPricex,@zVolume,0,@zVolume,0,0,@zAmount,
      @zIncludeInWASP,@zDedicatedPurchasePKG,@zPrice,0,'N','S',0,0,
      @EntityCIDx,@KProductIDx,@KServiceIDx,0,0)
      END
35      ELSE
      BEGIN
      IF (@zAmount<>0) AND (@zVolume<>0)
      BEGIN
      UPDATE
40      WASPResolvedRouting
      SET
      Receipt=(Receipt+@zVolume),
      Delivered=(Delivered+@zVolume),
      Amount=(Amount+@zAmount),
45      Price=ROUND(((Amount+@zAmount)/(Receipt+@zVolume)),4)
      WHERE
      GasMonth=@GasMonthx AND
      RecMID=@yRecMID AND
      DelMID=@yDelMID AND
      NomOrActual=@WhichPricex AND
      IncludeInWasp=@zIncludeInWASP AND
50      DedicatedPurchasePKG=@zDedicatedPurchasePKG AND
      ResolvedType='S' AND
      LID=0 AND
      EntityCID=@EntityCIDx AND
      KProductID=@KProductIDx AND
      KServiceID=@KServiceIDx
      END
      END
      END
      FETCH NEXT FROM LegDetailSaleCursor INTO @yPurchasePKG,
      @yRecMID,@yDelMID,@ySalesPKG,@yReceipt,@yLDIDPrev,@yGasDay,@yPurchasePointTID,@yStep
65      END
      CLOSE LegDetailSaleCursor
      DEALLOCATE LegDetailSaleCursor
      /*
      *****
70      * Once all of the sales meters have been

```

```

* inserted then it is time to insert the
* transportation routing leg entries. These
* are summarized entries. No day-to-day
* cursor processing is required only the
5  * sum of the unique days.
*
* Transport legs (type 'T') and purchase
* points (type 'P') are posted here..
*****

10 */
DECLARE LegDetailChaseCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
    LegDetail.PurchasePKG,
    LegDetail.LID,
15    LegDetail.ReclMID,
    LegDetail.DelMID,
    SUM(LegDetail.Receipt),
    SUM(LegDetail.Delivered),
    SUM(LegDetail.FuelOrOther),
20    ROUND(SUM(LegDetail.Receipt*LegDetail.TransportationRate),2),
    ROUND(SUM(LegDetail.Receipt*LegDetail.GatheringRate),2)
FROM
    LegDetail
WHERE
25    LegDetail.PurchasePointTID IN (SELECT DISTINCT TID FROM GasInv, Package, K WHERE
    GasInv.PKG=Package.PKG AND k.kid = Package.KID AND GasInv.GasMonth=@GasMonthx AND GasInv.DBCR=0 AND GasInv.PriceType=1
    and Package.KProductID = @KProductDx and Package.KServiceID = @KServiceDx AND K.EntityCID = @EntityCIDx) AND
    LegDetail.GasMonth=@GasMonthx AND
    LegDetail.GasDay>=@GasMonthx AND
30    LegDetail.GasDay<=@zLastDay AND
    LegDetail.NomOrActuals=@WhichPricex AND
    LegDetail.SalesPKG=0
GROUP BY
    LegDetail.PurchasePKG,
35    LegDetail.LID,
    LegDetail.ReclMID,
    LegDetail.DelMID
SELECT @zMessage = 'PSPriceWASPCalcSalesN, running query to create transportation legs...'
EXECUTE usp_Message @zMessage
40 SELECT @zPrevSalePKG=0
SELECT @zPrevSaleMID=0
SELECT @zMessage = 'PSPriceWASPCalcSalesN, opening cursor (LegDetailChaseCursor)...'
EXECUTE usp_Message @zMessage
OPEN LegDetailChaseCursor
45 SELECT @zMessage = 'PSPriceWASPCalcSalesN, finished opening cursor (LegDetailChaseCursor)...'
EXECUTE usp_Message @zMessage
FETCH NEXT FROM LegDetailChaseCursor INTO @qPurchasePKG,@qLID,@qRecMID,@qDelMID,@qReceipt,@qDelivered,@qFuelOrOther,
    @qTransport,@qGathering
50 WHILE @@FETCH_STATUS = 0
    BEGIN
        /*
        *****
        * Determine the classification of the
        * purchase deal attached to this transport
        * volume right here...
        *****
        */
        IF (@qPurchasePKG<>@zPrevSalePKG) OR (@qLID<>@zPrevSaleMID)
            BEGIN
                SELECT @zPrevSalePKG=@qPurchasePKG
                SELECT @zPrevSaleMID=@qLID
            END
            EXECUTE usp_fGetWasIndicator @qPurchasePKG,@zIncludeInWasp OUTPUT
            IF @zIncludeInWasp='Common'
                BEGIN
                    SELECT @zDedicatedPurchasePKG=0
                END
            ELSE
                BEGIN
70    SELECT @zDedicatedPurchasePKG=@qPurchasePKG

```

```

END
IF @qLID=0
BEGIN
    SELECT @zType='P'
5
    END
ELSE
    BEGIN
        SELECT @zType='T'
10
        END
    /*
    *****
    * If the leg for this is in the WASP
    * temporary routing table then
    * just update the record with the
    * totals. Otherwise, insert it and
    * go to the next leg...
    *****
    */
    SELECT @zAmountWithCosts=((@qGathering+@qTransport)*-1)
20
    IF ISNULL((SELECT count(*) FROM WASPResolvedRouting
        WHERE GasMonth=@GasMonthx AND RecMID=@qRecMID AND DelMID=@qDelMID AND
        NomOrActual=@WhichPricex AND IncludeInWasp=@zIncludeInWASP AND
        DedicatedPurchasePKG=@zDedicatedPurchasePKG AND ResolvedType=@zType
    AND LID=@qLID AND
25
    EntityCID=@EntityCIDx AND KProductID=@KProductIDx AND
    KServiceID=@KServiceIDx),0)<1
        BEGIN
            INSERT
            INTO
30
            WASPResolvedRouting
            (GasMonth,RecMID,DelMID,NomOrActual,Receipt,FuelOrOther,Delivered,
            TransportAmount,GatheringAmount,Amount,IncludeInWasp,DedicatedPurchasePKG,
35
            Price,ResolvedReceipt,ResolvedIndicator,ResolvedType,LID,ResolvedDelivered,
            EntityCID,KProductID,KServiceID,ResolvedReceiptAmt,ResolvedDeliveredAmt)
            VALUES
40
            (@GasMonthx,@qRecMID,@qDelMID,@WhichPricex,@qReceipt,@qFuelOrOther,@qDelivered,
            @qTransport,@qGathering,@zAmountWithCosts,@zIncludeInWASP,@zDedicatedPurchasePKG,
            0,0,'N',@zType,@qLID,0,
            @EntityCIDx,@KProductIDx,@KServiceIDx,0,0)
45
        END
    ELSE
        BEGIN
            UPDATE
50
            WASPResolvedRouting
            SET
            Receipt=(Receipt+@qReceipt),
            Delivered=(Delivered+@qDelivered),
            FuelOrOther=(FuelOrOther+@qFuelOrOther),
            TransportAmount=(TransportAmount+@qTransport),
            GatheringAmount=(GatheringAmount+@qGathering),
            Amount=(Amount+@zAmountWithCosts)
55
            WHERE
            GasMonth=@GasMonthx AND
            RecMID=@qRecMID AND
            DelMID=@qDelMID AND
            NomOrActual=@WhichPricex AND
            IncludeInWasp=@zIncludeInWASP AND
            DedicatedPurchasePKG=@zDedicatedPurchasePKG AND
            ResolvedType=@zType AND
            LID=@qLID AND
            EntityCID=@EntityCIDx AND
            KProductID=@KProductIDx AND
            KServiceID=@KServiceIDx
60
65
70
        END

```

Accepted for Release

```

                                FETCH NEXT FROM LegDetailChaseCursor INTO
                                @qPurchasePKG,@qLID,@qRecMID,@qDelMID,@qReceipt,@qDelivered,@qFuelOrOther,
                                @qTransport,@qGathering
5      END
      CLOSE LegDetailChaseCursor
      DEALLOCATE LegDetailChaseCursor
      SELECT @zMessage = 'PSPPriceWASPCalcSalesN Has Finished...'
      EXECUTE usp_Message @zMessage
10     END

15

20

25     GO
      SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
      GO

      SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
      GO
30     CREATE PROCEDURE usp_PSPPriceWASPClearMonth(
                                @GasMonthx DATETIME
                                )
      AS
      BEGIN
      SET NOCOUNT ON
      /*
      *****
40     Name: usp_PSPPriceWaspClearMonth

      Description: This routine will represents the common 'clean up' routine that
      will purge anything on the database that can be purged.

      The tables cleared include the following:
45     GasInvD (zero volume days for EstAct, Nom, PipelineActuals)
      LegDetail (zero volume routing entries)

      Inputs:
50     GasMonthx (gas month to calculate),

      History:
55     06/30/1999 JAMIE Original creation

      08/04/1999 JAMIE Modifications to not delete the entries in the
      WASPPurchaseMeterTotals table. This is becuase this table contains
      the information necessary to calculate the margins on a deal. All other
      supporting table entries will be deleted.
60

      10/12/1999 JAMIE Modifications to procedure to go out and delete any
      daily gas inventory entries that contain no data. Again, since this procedure
      is only executed when the gas month gets marked as completed there
      should be no repurcussions except fewer database records to administer.
65     Anything of historical relevance will be retained (ie.. if any volume whatsoever).

      03/30/2000 JAMIE Modifications made in the procedure to remove the zero entry
      routing records from the database (prior deletion of the daily gas inventory
      items should have deleted all of these (based on triggers). However,
70
```



this is for any/all other residuals.

08/25/2000 JAMIE Modified in order to remove obsolete cleanup tables  
such as old routing tables/etc.

```
5
*****
*/
DECLARE @zMessage VARCHAR(254)
DECLARE @zLastDay DATETIME

10
DECLARE @wTID INTEGER
DECLARE @wGasDay DATETIME

15
DECLARE @qLDID INTEGER

SELECT @zMessage = '**** STARTED, PSPriceWASPClearMonth'
EXECUTE usp_Message @zMessage
EXECUTE usp_fLastDay @GasMonthx,@zLastDay OUTPUT
/*
20
*****
* Remove daily inventory items that
* are now zero...
*****
*/
25
DECLARE GasInvDCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
    GasInv.TID,
    GasInvD.GasDay
30
    FROM
        GasInv,
        GasInvD
    WHERE
        GasInvD.TID = GasInv.TID AND
        GasInv.GasMonth=@GasMonthx AND
        GasInvD.EstAct = 0 AND
        GasInvD.Nom = 0 AND
        GasInvD.PipelineActuals = 0
    ORDER BY
        GasInv.TID,
        GasInvD.GasDay
40
SELECT @zMessage = ' PSPriceWASPClearMonth, Started removing ZEROd out Inventory Items...'
EXECUTE usp_Message @zMessage
OPEN GasInvDCursor
FETCH NEXT FROM GasInvDCursor INTO @wTID, @wGasDay
45
WHILE @@FETCH_STATUS = 0
    BEGIN
        BEGIN TRANSACTION
        DELETE FROM GasInvD WHERE TID=@wTID AND GasDay=@wGasDay
        COMMIT WORK
        FETCH NEXT FROM GasInvDCursor INTO @wTID, @wGasDay
50
    END
CLOSE GasInvDCursor
DEALLOCATE GasInvDCursor
SELECT @zMessage = ' PSPriceWASPClearMonth, Finished removing ZEROd out Inventory Items...'
55
EXECUTE usp_Message @zMessage
/*
*****
* Remove any routing items that had
* no entries within them.
*****
60
*/
DECLARE LegDetailCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
SELECT
65
    LDID
    FROM
        LegDetail
    WHERE
        GasMonth=@GasMonthx AND
        Receipt=0 AND
        Delivered=0 AND
70
```

```

Balance=0 AND
FuelOrOther=0
ORDER BY
PurchasePointTID
5 SELECT @zMessage = ' PPriceWASPClearMonth, Started removing ZEROd out Routing (LegDetail) Items...'
EXECUTE usp_Message @zMessage
OPEN LegDetailCursor
FETCH NEXT FROM LegDetailCursor INTO @qLDID
10 WHILE @@FETCH_STATUS = 0
BEGIN
BEGIN TRANSACTION
DELETE FROM LegDetail WHERE LDID=@qLDID
COMMIT WORK
FETCH NEXT FROM LegDetailCursor INTO @qLDID
15 END
CLOSE LegDetailCursor
DEALLOCATE LegDetailCursor
SELECT @zMessage = ' PPriceWASPClearMonth, Started removing ZEROd out Routing (LegDetail) Items...'
EXECUTE usp_Message @zMessage
20 SELECT @zMessage = '**** FINISHED, PPriceWASPClearMonth'
EXECUTE usp_Message @zMessage
END

25
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
30
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
35 CREATE PROCEDURE usp_PPriceWASPDiveOutProceedsN(
@GasMonthx DATETIME,
@WhichPricex INTEGER,
@EntityCIDx VARCHAR(12)
)
AS
40 BEGIN
/*
*****
Name: usp_PPriceWASPDiveOutProceeds
45 Description:
This procedure will get executed during the WASP calculation in order
to credit the financial proceeds (gain or loss) from one deal to another.
50 These proceed designations are setup on the package table
(FinancialPKG and FinancialMID field contains either a deal id
or a common wasp meter pool point that is to receive the proceeds).
These fields are mutually exclusive on the deal table.
55 The default for all deals is the deal itself (for owning the proceeds). Only
if the FinancialPKG or FinancialMID field has been entered will it be
distributed elsewhere. The distribution amount (if any) will be posted
on the from deal record (either in the FinancialNomAmount or
FinancialActAmount field, dependant on which price is calculating).
60 This procedure works for 3rd party deals only (deal classification rule
is equal to 'None'). The reason for this is because these are the only
types of deals where we know the actual margin ('Common' (Wasp)
and sanctioned sales (Dedicated) are netback calculated deals.
65 For all FinancialPKG/MID entries this procedure will:
1. Calculate the margin (purchase price and purchase meter price).
2. Reduce the purchase meter amounts by the amount calculated.
70 3. Post the dollar amount to the proceed purchase meter(s) based on their respective

```

volume weightings to the deal.

Inputs:

5 GasMonthx - Gas Month  
WhichPriceX - 0=Nominations, 1=Actuals  
EntityCIDx - owning company/entity

10 History:

07/27/1999 JAMIE Original Creation.

15 10/13/1999 JAMIE Modified to cast the distribution amounts to decimal(18,4).  
This is because of bug receiving correct amount to distribute when dividing  
two integers.

20 03/30/2000 JAMIE Modified the program to not use the 'PackageLinks'  
table but to use the FinancialPKG field stored on the deal table. This  
was done as part of the integration with linking and the new route  
process.

05/24/2000 JAMIE Modified to include the owning company/entity.

25 07/28/2000 JAMIE Modified in order to post the updates of what is  
being distributed back to the Package table (for the 'from' deal) and  
then post the amounts to the WASP Purchase Meter table (for deals)  
or WASP Legs for meters. This change was done in order to  
facilitate the reordering of the calculations.

30 08/07/2000 JAMIE Modified so that even if diving to a specific deal IF  
that deal is a wasp deal then all deals that share the same original  
purchase point meters as the deal being divided to (in the 'Common' pool)  
will share in the divie.

35 08/18/2000 JAMIE Modified so that if diving to a specific deal then the  
amount will go to the WASPResolvedRouting table versus the obsolete  
WASPPurchaseMeterTable.

40 \*\*\*\*\*  
\*/  
/\*  
\*\*\*\*\*

45 \* Declare all variables and cursors  
\* that are needed by this process.  
\*\*\*\*\*

\*/  
DECLARE @zMessage VARCHAR(254)  
DECLARE @zLastDay DATETIME  
DECLARE @zPurchasePrice DECIMAL(19,6)  
50 DECLARE @zIncludeInWasp VARCHAR(10)  
DECLARE @zTotalVolume INTEGER  
DECLARE @zGrandTotalDistributed DECIMAL(19,2)  
DECLARE @zTempVolPercent DECIMAL(19,4)  
DECLARE @zAmountToDistribute DECIMAL(19,2)  
55 DECLARE @zMarginPrice DECIMAL(18,4)  
DECLARE @zMarginAmt DECIMAL(19,2)  
DECLARE @zFoundDedicated VARCHAR(1)  
DECLARE @zSumofFBOPKGCreditMeters INTEGER  
60 DECLARE @zAmountToCredit DECIMAL(19,2)  
DECLARE @zSumofFBOPKGMeters INTEGER

65 DECLARE @yPKG INTEGER  
DECLARE @yFinancialPKG INTEGER  
DECLARE @yKProductID INTEGER  
DECLARE @yKServiceID INTEGER  
DECLARE @yFinancialMID INTEGER

70 DECLARE @yWASPPReceipt DECIMAL(19,2)  
DECLARE @yWASPAmount DECIMAL(19,2)  
DECLARE @yWASPPPrice DECIMAL(19,6)

```

DECLARE @yWASPSolvedID INTEGER

DECLARE @yWASPCreditReceipt DECIMAL(19,2)
DECLARE @yWASPCreditAmount DECIMAL(19,2)
5  DECLARE @yWASPCreditPrice DECIMAL(19,2)
    DECLARE @yWASPCreditResolvedID INTEGER

    DECLARE @qDelivered DECIMAL(19,2)
    DECLARE @qAmount DECIMAL(19,2)
10  DECLARE @qPrice DECIMAL(19,6)
    DECLARE @qResolvedID INTEGER

    SELECT @zMessage = 'PSPriceWASPDiveOutProceedsN, ***STARTED***'
    EXECUTE usp_Message @zMessage
15  EXECUTE usp_fLastDay @GasMonthx,@zLastDay OUTPUT
    /*
    *****
    * At this point we want to loop
    * through all of the packages
    * (deals) on the system that had
    * requested that the proceeds
    * be divided to other deals.
    *****
    */
25  DECLARE ProceedsCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
    SELECT
        PKG,
        FinancialPKG,
        KProductID,
        KServiceID,
        FinancialMID
        FROM
            Package,
            K
        WHERE
            (K.KID=Package.KID) AND
            (K.EntityCID=@EntityCIDx) AND
            (StartDate BETWEEN @GasMonthx AND @zLastDay) AND
            (((FinancialPKG IS NOT NULL) AND (FinancialPKG<>0)) OR ((FinancialMID IS NOT NULL) AND
40  (FinancialMID<>0)))
        ORDER BY
            PKG

45  OPEN ProceedsCursor
    FETCH NEXT FROM ProceedsCursor INTO @yPKG,@yFinancialPKG,@yKProductID,@yKServiceID,@yFinancialMID
    WHILE @@FETCH_STATUS = 0
        BEGIN
50  BEGIN TRANSACTION
            SELECT @zMessage = 'PSPriceWASPDiveOutProceedsN, Proceeds divided from deal...' + CAST(@yPKG as
            VARCHAR(12))
            EXECUTE usp_Message @zMessage
            /*
            *****
55  * Get the agreed upon purchase
            * price from the engine for the
            * 'from' purchase deal. The total
            * volume across all days is also
            * obtained here (for all meters).
            *
            * Base the price on the weighted
            * averages for all entries within
            * the Engine table.
            *
60  * This yields the single weighted
            * average cost across all wells
            * and days.
            *
            * This price should be the price
            * that was found PRIOR to diving
70

```

```

* out any adjustments.
*****
*/
IF @WhichPricex=0
5      BEGIN
          SELECT @zPurchasePrice=ROUND(ISNULL((SELECT
SUM(Engine.Amount)/SUM(Engine.Volume) FROM Engine,GasInv
          WHERE
10      (GasInv.GasMonth=@GasMonthx AND GasInv.PKG=@yPKG) AND (Engine.TID=GasInv.TID) AND (Engine.STID=8) AND
          Engine.Amount>0
and Engine.Volume>0),0),4)
          SELECT @zTotalVolume=ISNULL((SELECT SUM(Engine.Volume) FROM Engine,GasInv
WHERE (GasInv.GasMonth=@GasMonthx AND GasInv.PKG=@yPKG) AND
15      (Engine.TID=GasInv.TID) AND (Engine.STID=8) AND
          Engine.Amount>0
and Engine.Volume>0),0)
          END
IF @WhichPricex=1
20      BEGIN
          SELECT @zPurchasePrice=ROUND(ISNULL((SELECT
SUM(Engine.AmountAct)/SUM(Engine.VolumeAct) FROM Engine,GasInv
          WHERE
25      (GasInv.GasMonth=@GasMonthx AND GasInv.PKG=@yPKG) AND (Engine.TID=GasInv.TID) AND (Engine.STID=8) AND
          Engine.AmountAct>0
and Engine.VolumeAct>0),0),4)
          SELECT @zTotalVolume=ISNULL((SELECT SUM(Engine.VolumeAct) FROM Engine,GasInv
WHERE (GasInv.GasMonth=@GasMonthx AND GasInv.PKG=@yPKG) AND
30      (Engine.TID=GasInv.TID) AND (Engine.STID=8) AND
          Engine.AmountAct>0
and Engine.VolumeAct>0),0)
          END
/*
35      *****
          * Only continue if the purchase
          * price (average) for this deal
          * could be calculated (ie.. there
          * was a volume and there was
          * a price entry.
          *
          * Now loop through each of the
          * meters to determine how much
          * to reduce each meter by...
          *
45      *****
          */
          SELECT @zGrandTotalDistributed=0
          IF (@zPurchasePrice>0)
          BEGIN
50              IF @zTotalVolume<>0
                  BEGIN
                          /* This cursor is for determining proceed amounts*/
70              DECLARE WASPResolvedRoutingDebitCursor CURSOR LOCAL
              SELECT
              receipt,
              amount,
              price,
              ResolvedID
              FROM
              WASPResolvedRouting
              WHERE
              GasMonth=@GasMonthx AND
              DedicatedPurchasePKG=@yPKG
              AND
              NomOrActual=@WhichPricex
              AND
              EntityCID=@EntityCIDx AND

```

```

5
KProductID=@yKProductID AND
KServiceID=@yKServiceID AND
ResolvedType='P' AND
LID=0 AND
RecMID=DelMID
OPEN WASPResolvedRoutingDebitCursor
FETCH NEXT FROM WASPResolvedRoutingDebitCursor INTO
@yWASPPReceipt,@yWASPPAmount,
10
@yWASPPPrice,@yWASPPResolvedID
WHILE @@FETCH_STATUS = 0
BEGIN
SELECT @zMarginPrice=ROUND((@yWASPPPrice-
15
@zPurchasePrice),4)
SELECT
@zMarginAmt=ROUND((@zMarginPrice*@zTotalVolume),2)
IF @yWaspReceipt>0
BEGIN
20
@zTempVolPercent=ROUND((@yWaspReceipt/@zTotalVolume),4)
SELECT
@zAmountToDistribute=ROUND((@zTempVolPercent*@zMarginAmt),2)
SELECT
25
@zGrandTotalDistributed=@zGrandTotalDistributed+@zAmountToDistribute
UPDATE
WASPResolvedRouting
SET
30
Amount=Amount+(@zAmountToDistribute*-1)
WHERE
ResolvedID=@yWASPPResolvedID
UPDATE
35
WASPResolvedRouting
SET
40
Price=(Amount/Receipt)
WHERE
ResolvedID=@yWASPPResolvedID AND
45
Receipt<>0 AND
Amount<>0
END
FETCH NEXT FROM WASPResolvedRoutingDebitCursor
50
INTO @yWASPPReceipt,@yWASPPAmount,
@yWASPPPrice,@yWASPPResolvedID
END
CLOSE WASPResolvedRoutingDebitCursor
DEALLOCATE WASPResolvedRoutingDebitCursor
55
END
END
/*
*****
60
* At this point, if there has been any
* proceeds distributed from the
* purchase deal then go and distribute
* the amount back to the deal where
* that is receiving credit. This is
* based on the volume weighting
* distribution at the target 'to' meter.
*
65
* The field zGrandTotalDistributed contains
* the total dollar amount to be credited
* the the meters (based on volume
70
* weighting.

```

```

*****
*/
IF @zGrandTotalDistributed<>0
    BEGIN
5         /*
        *****
        * Post the 'from' deal with the
        * appropriate distributed amount.
        * This is the total amount across
10        * the entire deal and is stored on
        * the deal record to provide an
        * audit of how much was diverted.
        *****
        */
15        IF @WhichPrice=0
            BEGIN
                UPDATE
                Package
                SET
20                FinancialNomAmount=@zGrandTotalDistributed
                WHERE
                PKG=@yPKG
                END
25        IF @WhichPrice=1
            BEGIN
                UPDATE
                Package
                SET
30                FinancialActAmount=@zGrandTotalDistributed
                WHERE
                PKG=@yPKG
                END
35        /*
        *****
        * If diving to another deal then
        * perform this.... Adjustments are
        * made to the WASPResolvedRouting
        * table. There is no need to post
40        * adjustments to the Engine table
        * since the target deals have either
        * not yet calculated (dedicated) or
        * the Engine price is fixed (3rd
        * party).
        *****
45        */
        IF (@yFinancialPKG IS NOT NULL) AND (@yFinancialPKG<>0)
            BEGIN
                /*
                *****
                * Determine if the target deal is
                * a wasp deal or a 3rd party or
                * sanctioned sale deal... If it is a
                * wasp deal then the originating
                * meters in the common pool
                * will get the credit.
                *****
50                */
                EXECUTE usp_fGetWasplndicator @yFinancialPKG,@zIncludeInWasp OUTPUT
                /*
                *****
                * Sum totals across all meters on
                * the target deal...
                *****
55                */
                IF @WhichPrice=0
                    BEGIN
                        SELECT
60                        @zSumoffBOPKGCreditMeters=ISNULL((SELECT SUM(inventory.Nom) FROM gasInv AS inventory

```

```

inventory.PKG=@yFinancialPKG AND inventory.GasMonth=@GasMonthx AND inventory.DBCR=0 AND inventory.PriceType=1),0)
                                                                WHERE
                                                                END
5      IF @WhichPrice=1
                                                                BEGIN
                                                                SELECT
                                                                @zSumoffBOPKGCreditMeters=ISNULL((SELECT SUM(inventory.PipelineActuals) FROM gasInv AS inventory
                                                                WHERE
10     inventory.PKG=@yFinancialPKG AND inventory.GasMonth=@GasMonthx AND inventory.DBCR=0 AND inventory.PriceType=1),0)
                                                                END
                                                                /*
                                                                *****
                                                                * If there is some sort of volume
                                                                * then post it proportionately.
                                                                *****
15     */
                                                                IF @zSumoffBOPKGCreditMeters<>0
                                                                BEGIN
                                                                /*
                                                                *****
20     * if not a wasp deal to post the
                                                                * credit to then...
                                                                *****
                                                                */
                                                                IF @zIncludeInWasp <> 'Common'
                                                                BEGIN
                                                                /* This cursor is for
                                                                posting proceeds to a dedicated deal point*/
30     DECLARE
                                                                WASPResolvedRoutingCreditDedicatedCursor CURSOR LOCAL STATIC FORWARD_ONLY FOR
                                                                SELECT
                                                                receipt,
                                                                amount,
                                                                price,
                                                                ResolvedID
                                                                FROM
45     WASPResolvedRouting
                                                                WHERE
                                                                GasMonth=@GasMonthx AND
                                                                DedicatedPurchasePKG=@yFinancialPKG AND
                                                                NomOrActual=@WhichPrice AND
                                                                receipt>0 AND
55     ResolvedType='P' AND
                                                                LID=0 AND
                                                                RecMID=DelMID
                                                                OPEN
                                                                WASPResolvedRoutingCreditDedicatedCursor
                                                                FETCH NEXT FROM
65     WASPResolvedRoutingCreditDedicatedCursor INTO @yWASPCreditReceipt,
                                                                @yWASPCreditAmount,@yWASPCreditPrice,@yWASPCreditResolvedID
                                                                WHILE
70     @@FETCH_STATUS = 0
                                                                BEGIN

```





```

        wp.ResolvedID
5      FROM
        WASPResolvedRouting AS wp,
        GasInv AS g
10     WHERE
        g.GasMonth=@GasMonthx AND
        g.PKG=@yFinancialPKG AND
15     g.GasInv_MID=wp.RecMID AND
        wp.GasMonth=@GasMonthx AND
        wp.DedicatedPurchasePKG=0 AND
        wp.IncludeInWasp='Common' AND
        wp.NomOrActual=@WhichPrice AND
25     wp.receipt>0 AND
        wp.EntityCID=@EntityCIDx AND
        wp.KProductID=@yKProductID AND
        wp.KServiceID=@yKServiceID AND
        wp.ResolvedType='P' AND
        wp.LID=0 AND
        wp.RecMID=DelMID
40     WASPResolvedRoutingCreditWASPCursor
        WASPResolvedRoutingCreditWASPCursor INTO @yWASPCreditReceipt,
        @yWASPCreditAmount,@yWASPCreditPrice,@yWASPCreditResolvedID
45     @@FETCH_STATUS = 0
        WHILE
            BEGIN
50         SELECT @zTempVolPercent=ROUND((@yWaspCreditReceipt/@zSumoffBOPKGCreditMeters),4)
        SELECT @zAmountToCredit=ROUND((@zTempVolPercent*@zGrandTotalDistributed),2)
        IF @zAmountToCredit<>0
55         BEGIN
            UPDATE
60             WASPResolvedRouting
            SET
            Amount=(Amount+@zAmountToCredit)
65         WHERE
            ResolvedID=@yWASPCreditResolvedID
        UPDATE

```

```

WASPResolvedRouting
5          SET
          Price=(Amount/Receipt)
WHERE
10          ResolvedID=@yWASPCreditResolvedID AND
          Amount<>0 AND
          Receipt<>0
15      END
      FETCH NEXT FROM WASPResolvedRoutingCreditWASPCursor INTO @yWASPCreditReceipt,
20          @yWASPCreditAmount,@yWASPCreditPrice,@yWASPCreditResolvedID
          END
          CLOSE
          DEALLOCATE
25      WASPResolvedRoutingCreditWASPCursor
          END
          END
          END
30      /*
          *****
          * If diving to the WASP pool then
          * the total distributed is posted
          * proportionately on each leg that
          * contains this meter in the
          * 'Common' pool.
          *****
          */
          IF (@yFinancialMID IS NOT NULL) AND (@yFinancialMID<>0)
          BEGIN
          /*
          *****
          * Sum totals across all legs that
          * have the same meter in the
          * 'Common' pool for the month.
          *****
          */
          SELECT @zSumofFBOPKGCreditMeters=ISNULL((SELECT SUM(Delivered)
FROM WaspResolvedRouting
50      GasMonth=@GasMonthx AND LID<>0 AND
          WHERE
          NomOrActual=@WhichPricex AND IncludeInWasp='Common' AND
          EntityCID=@EntityCIDx AND KProductID=@yKProductID AND
55      KServiceID=@yKServiceID AND DelMID=@yFinancialMID),0)
          /*
          *****
          * If there is some sort of volume
          * then post it proportionately to
          * each of the legs in the WASP
          * resolved routing table.
          *****
          */
          IF @zSumofFBOPKGCreditMeters<>0
          BEGIN
          pool (non entry point)*/
70
          /* This cursor is for posting proceeds to a wasp

```



```

WASPResolvedRoutingCreditCursor
DEALLOCATE

END
END
END
5
COMMIT WORK
FETCH NEXT FROM ProceedsCursor INTO @yPKG,@yFinancialPKG,@yKProductID,@yKServiceID,@yFinancialMID
END
CLOSE ProceedsCursor
DEALLOCATE ProceedsCursor
10
SELECT @zMessage = 'SPPriceWASPDiveOutProceedsN, ***FINISHED***'
EXECUTE usp_Message @zMessage
END
15
20
25
GO
SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
GO
30
SET QUOTED_IDENTIFIER ON SET ANSI_NULLS ON
GO
CREATE PROCEDURE usp_fGetCalcIndex(
35
    @TIDx INTEGER,
    @NomOrActualx INTEGER,
    @EntityCIDx VARCHAR(12),
    @KProductIDx INTEGER,
    @KServiceIDx INTEGER,
    @GasMonthx DATETIME,
    @rReturnValue DECIMAL(19,6) OUTPUT
40
)
AS
BEGIN
/*
*****
45
Name: usp_fGetCalcIndex

Description: This is the main process for finding the actual price that was
calculated for a WASP purchase deal. The WASPResolvedRouting table
contains all of the prices for WASP purchases.
50
An attempt should first be made to see if the price can be resolved by reading
for a 'Dedicated' wasp pool (sanctioned sales/purchases are more or less
dedicated). The purchase deal id must match the dedicatedpurchasepkg field
on the WASPResolvedRouting.
55
If the specific package cannot be found then the purchase meter will be used
(ie.. 'Common' wasp pool).

Inputs:
60
TIDx - Unique Key to gas inventory record (GasInv)
NomOrActualx - 0=Nominations, 1=Actualizations
EntityCIDx - owner
KProductIDx - product id
65
KServiceIDx - service
GasMonthx - Current gas month
rReturnValue - OUTPUT return value

History:
70

```



```

SELECT @yWorkValue=Price FROM WASPResolvedRouting
      WHERE RecMID=@ymid AND DelMID=@ymid AND LID=0 AND ResolvedType='P'
      AND gasmonth=@ygasmnth AND IncludeInWasp='Common' AND
NomOrActual=@NomOrActualx AND EntityCID=@EntityCIDx
      AND KProductID=@KProductIDx AND KServiceID=@KServiceIDx
5      END
/*
*****
10  * If some sort of price was found then
  * return with it... Otherwise zeros
  * are returned (no price calculated).
  *****
  */
15  /*
    SELECT @message = 'WASP Price ' +
                      CAST(@yWorkValue AS VARCHAR(12)) +
                      ' for meter id ' +
                      CAST(@ymid AS VARCHAR(12))
    EXECUTE usp_message @message
20  */
    IF @yWorkValue IS NOT NULL
      BEGIN
        SELECT @rReturnValue=@yWorkValue
25      END
    END
GO
30  SET QUOTED_IDENTIFIER OFF SET ANSI_NULLS ON
    GO

```

### ADDITIONAL FEATURES

The present invention has been disclosed, illustrated, and described in relation to a client-server application that facilitates pricing and distribution of fuel to a customer. Although centralized data storage and manipulation is preferred in regard to the version of the system that has been provided, the
 40 inventors contemplate other applications and enhancements that certainly are within the scope of the present invention. For example, the present invention relies on data inputs and feeds from a variety of entities such as producers, transporters, etc. Although such data inputs are often entered manually into the systems provided by the present invention, such data inputs could be
 45 automatically delivered and stored within data store 106 (FIG. 2). For example, transporters controlling actual meters along a gas pipeline, for example, could be outfitted with remote sensors and transmitters that provide shipment volume, etc. details directly to the systems provided by the present invention. Moreover, data inputs such as indexing datum used to drive pricing, etc. may be similarly
 50 obtained. And, since such data inputs can come from a variety of sources,

modern communications technologies such as the Internet, wireless technologies, etc. could all be used to couple an operator of the systems and methods provided by the present invention with such sources. Accordingly, the present invention is not limited to any particular data retrieval system, topology, method, or paradigm. Those skilled in the art will be immediately able to adapt and modify the underlying data collection capabilities of the systems and methods provided by the present invention to incorporate such new and modern technologies and techniques.

Finally, it should be noted that the present invention contemplates and provides for an elaborate reporting capability as provided within the software contained on the attached compact disc. Those skilled in the art of computer programming and those familiar with fuel deal management will immediately understand that any number of report may be prepared to suit and satisfy management requirements. The database tables maintained by the present invention certainly support all types of relational type queries that such reports may require.

Thus, having fully described the present invention by way of example with reference to the attached drawing figures, it will be readily appreciated that many changes and modifications may be made to the invention and to any of the exemplary embodiments shown and/or described herein without departing from the spirit or scope of the invention which is defined in the appended claims.